The Transition from the Neolithic to the Early Bronze Age (EBA) in Crete (Greece), with special reference to pottery

Volume I

Aikaterini Manteli

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in the Faculty of Arts
University of London

University College
Institute of Archaeology
University of London
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To my father and mother

ABSTRACT

The transition from the Neolithic to the EBA in Crete is best illustrated through the pottery sequence of the island. Crete is a large self-sufficient island of the Mediterranean and for the best part of the Neolithic era kept aloof from the rest of the Aegean. The EN I to LN pottery is very homogeneous and is characterised by a rather conservative typology. In the LN II and the FN periods a combination of internal factors, such as improvements in pot firing techniques and a taste for innovation from within the system, led to the invention of new types of decoration and a strong tendency for mass production. These developments took place at Knossos and Phaistos, the two main settlements of the island with a fully developed mixed agricultural economy. The other LN/ FN sites -mainly caves- do not demonstrate the same creativity and variety in pottery styles. Their pottery assemblages are rather monotonous in typology and of lower quality. This difference may well derive from the different types of economic exploitation practised in the various environments. Nevertheless, there are sufficient typological links between Knossos and Phaistos and the other sites to substantiate the typological and cultural homogeneity of the island as a whole.

In the EBA (EM I) a major innovation appears with the sudden introduction of painted pottery. At the same time, each major geographical area of the island develops its own individual pottery styles. Despite the apparent discontinuity between the Neolithic and the EBA, which led to the formulation of various invasion theories, lines of continuity can be followed up and have to do with the improvements in pot firing and mass production. Affinities and communication with the Aegean are now stronger and more intensified, but do not justify a cultural break. The Cretan EBA pottery has its own unmistakable character and identity. All in all, the transitional period seems to be rather short and coincides with the last phase of the Neolithic, the FN.

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Abbreviations

EBA	Early Bronze Age
EC	Early Cycladic
EH	Early Helladic
EM	Early Minoan
EN	Early Neolithic
FN	Final Neolithic
HM	Herakeion Museum
LM	Late Minoan
LN	Late Neolithic
MM	Middle Minoan
MN	Middle Neolithic
N or Neo	Neolithic
App.	Appendix
Ch.	Chapter
Fig.	Figure
Pl.	Plate
Str.	Stratum
T	Type
Vol.	Volume

Abbreviations of periodicals

AA	Archaeologische Anzeitung
AAA	Archeologika Analecta ex Athinon
ADeltion	Archeologikon Deltion
AJA	American Journal of Archeology
Annuario	Annuario della Scuola Archeologica di Atene
BAR	British Archaeological Reports
BCH	Bulletin de Correspondence Hellenique
Bol d' Arte	Bolletino d' Arte
BSA	Annual of the British School at Athens
JHS	Journal of Hellenic Studies
Mon. Ant.	Monumenti Antici
PPS	Proceedings of the Prehistoric Society
Praktika	Praktika tis Archeologikis Etaireias Athinon
SMEA	Studi Micenei ed Egeo-Anatolici

CHAPTER I

INTRODUCTION

This thesis deals with the transition from the Neolithic to the EBA in Crete. This topic has been widely discussed in the literature, but it has never been studied in a systematic way. Various suggestions have been put forward about the process of the transition, namely, invasion theories or long pace of internal evolution (Treuil, 1983, 516-519; Tzedakis, 1984), while several terms have been proposed for the transitional period, such as "sub-neolithic" and "chalcolithic" (Evans A., 1921, 32; Levi, 1964, 5). However, this subject remains still obscure. The main reason is that most reconstructions are based on pottery typology and the usual attitude is to extrapolate evidence from one site or region and then formulate a theory of general applicability. In some cases, an effort is made to equate the Anatolian sequence and especially its chalcolithic horizon with FN and EM I Crete.

1. Scope and aims

The aim of this thesis is to study in detail the totality of pottery evidence from the island and document the process of transition. In this way, the accuracy of the reflection of cultural change on pottery typology will be evaluated and the validity of previous reconstructions will be tested against a corpus of specific evidence. As chronological framework we use the FN horizon, established on a hypothetical level by Renfrew (1972, 71). Its main advantage is that it views the transitional period as an indepedent chronological unit. The overall aim is to establish the degree of continuity from the earlier phases of Neolithic to the FN and then to the EM I period, which is the first EBA period in Crete. Although it is out of the scope of this thesis to monitor the transition with regard to ecomonic and social change, the study of the interaction of pottery typology and function brings to the surface both economic and social factors that determine the appearance of pottery. Moreover, a

special emphasis is put on the technological aspect of pottery, which is related to craft specialisation and production demands. As a result, we hope to bring forward a variety of internal factors that affect pottery changes. Special attention is also given to the stratigraphic evidence on the transition. Finally, we intend to establish a firm chronological framework for the last phases of Neolithic and the transitional period.

2. Methodology

The first problem that emerges is the lack of systematic publications, the uneven amount of information one can get from the existing ones as well as the different terminologies used for the description of pottery in them. Another major problem is the relative obscurity about the pottery typology from FN Knossos. To overcome these difficulties, we devoted the second volume to a detailed presentation, in the form of appendices, of twenty-five, published or unpublished, FN and EM I pottery assemblages and their stratigraphy. The main criterion used for their selection is whether the site is excavated, because we consider as less safe for the purpose of this thesis the results of surface surveys. A uniform terminology is used for the description of each pottery assemblage and special effort is made to give as many as possible quantitative data. Of course, due to the nature of evidence, there are still limitations.

The first volume deals with the discussion and interpretation of evidence. In chapter II, we discuss the N/ EM I stratigraphy and after that follow twelve chapters on pottery typology. Chapters III to VI deal with the neolithic pottery typology and technology from Knossos and establish the occurrence of a FN phase there. A firm LN to FN sequence is also established from the same site, on the basis of a quantitative and stylistic analysis of pottery. Chapter VII presents a detailed comparative analysis of LN/ FN Knossos and FN Phaistos pottery. The following chapter (VIII) gives a synthesis of the relative chronology of the two sites, as this emerges from their

comparison. Chapters IX and X deal with the LN/ FN pottery evidence from the rest of the island and its relation to Knossos and Phaistos, in terms of relative chronology. Chapter XI examines the interaction of pottery function and typology and comes to very interesting conclusions about how the former determines the latter. Chapter XII deals with a specialised group of FN pottery (the "Partira" group), which has a strong transitional character. Chapter XIII presents a thorough survey of the Aegean affinities of FN Crete and their implications for relative and absolute chronology. Finally, Chapter XIV gives a detailed description of EM I pottery typology and studies the patterns of continuity from the previous period. Chapter XV presents the general conclusions of this study.

CHAPTER II

THE STRATIGRAPHIC EVIDENCE ON THE N/ EM I TRANSITION

1. Introduction

This chapter deals with the reconstruction and evaluation of all stratigraphic data available on the N/ EM I transition in Crete. Evidence comes from the twenty-four sites with LN/ FN and/ or EM I deposits which are used as sample in this thesis. Their stratigraphies are presented in detail in the relevant appendices of volume II. Reconstruction of the evidence is impeded by the almost total lack of undisturbed N/ EM I stratigraphies. Knossos and Phaistos are the main sources of information, since they are the only sites on the island, where big LN/ FN open settlements were succeeded by EM I ones. The first two sections are devoted to these sites, then, follows a review of the stratigraphies of the remaining ones, which are grouped into five categories: FN/ EM I, N/ EM, LN, FN and EM I sites. The last section has a conclusive character.

2. Knossos

The Neolithic settlement of Knossos lies on the low hill of Kephala, in the Kairatos river valley, in North-Central Crete (Vol. II, App. I, A; fig. 1). A large Minoan Palace was built right on top of the neolithic settlement. A. Evans and J.D. Evans were the main excavators of the site, but the neolithic evidence has not been put together as yet nor is fully published. The most important neolithic remains were revealed below the Central and West Court of the Palace. More precisely, a full undisturbed Aceramic to LN sequence was excavated in Central Court area AC by J.D. Evans (1964, fig. 4; 1964a). This sequence was c. 8 m. deep and included ten strata (X-I) (Vol. II, App. I, B). Strata II and I correspond to the LN occupation and define the LN horizon of the site.

2.1. LN horizontal stratigraphy

Apart from LN Central Court strata II and I, other LN deposits come from the Throne Room System, which lies to the west of the Central Court, from the 1923-24 A. Evans' strata a (Houses A and B) and b, in the SW corner of Central Court, and from the West Court. West Court evidence includes four 1969-70 J.D. Evans' soundings (AA/BB, EE and FF) and all A. Evans' test-pits with LN material (Vol. II, App. II, B1-B6).

The relation of these LN Knossos units, in terms of horizontal stratigraphy, has already been examined in a different context (Vol. II, App. II, B8). There it becomes obvious that the LN Throne Room System deposits and Central Court stratum a (Houses A and B) belong to the stratigraphic horizon of the LN Central Court stratum I. They all lie on a yellow kouskouras spread, which has been followed up by means of a trench joining stratum I to stratum a. Only A. Evans' stratum b cannot be associated with any other Central Court unit. However, as it becomes obvious in the excavation daybooks (Mackenzie, 1923), this stratum has been preserved only over the NE sector of stratum a (Vol. II, App. II, B5). Finally, there is no direct stratigraphic link between the Central and West Court LN deposits. This gap can be partly bridged with the help of local topography and pottery evidence.

2.2. LN/ EM I transition

The top LN levels and the EM I deposits have been disturbed by large-scale levelling operations, which preceded the erection of the Minoan Palace of Knossos. The effect of these activities on neolithic and EM I sequences of all stratigraphic units, referred to above, has already been evaluated in a different context (Vol. II, App. II, B7). There it becomes evident that the effects of levelling were thorough, extensive, and varied according to the topographic position of each unit on the neolithic hill. The Central Court of the Palace lies on the top of the hill, which was truncated to create a platform for the

paving of the court. As a result, all EM deposits as well as the top LN levels of stratum I were erased. Moreover, what survived of stratum b was preserved only because it was at a little lower level that the rest of the deposit. In general, all Central Court LN deposits lay directly below the Minoan paving and, in the case of the Throne Room System, below Minoan floor deposits.

West Court LN and EM deposits, on the other hand, by lying on a slope, were affected in a somewhat different way. The purpose, there, was to create a terrain for the paving of the court by filling the slope, and EM II debris was brought in to level up the area. As a result, EM I and EM II deposits, mixed during the process of levelling, appeared under the court pavement. West Court LN deposits were disturbed by smaller-scale levelling operations, preceding the foundations of EM II houses, which did not go as deep as those for the Palace in the Central Court, but, nontheless, explain the occurrence of mixed LN/ EM deposits in the top neolithic levels of the West Court soundings and test-pits. Only in sounding FF, which lies a little further down the slope, the LN deposit was preserved at a somewhat higher level.

All in all, Minoan levelling resulted in the removal of the top LN levels of stratum I and of all EM deposits from the Central Court and in the mixing of the EM I/ EM II and LN/ EM deposits in the West Court. There are only two areas in the West Court, where pure, but not "in situ" EM deposits appear above LN ones. The first one is a small cutting into the top LN levels of sounding FF with EM IB material and the second one is an EM IIA fill stratified above the LN levels of test-pit K II5 (Vol. II, App. II, B6, B8).

It is obvious that, with the exception of the EM IB fill from West Court sounding FF, there is no stratified EM I evidence from Knossos. Levelling operations are again responsible for the disturbance of this part of the Knossos sequence. Such activities not only have erased the EM I deposits from Central Court, but have also disturbed the EM I West Court stratigraphy. The well-documented

case of the EM IIA house from West Court sounding AA/ BB has shown that smaller-scale levelling took place prior to the construction of this house and disturbed the underlying EM I levels (App. II, B6, pp. 29-30). The total lack of stratified deposits or architectural remains could indicate a discontinuation of habitation in EM I. However, the amount and quality of EM I pottery recovered from the site speak for an occupation in this period. As Wilson (1984, 29-30) points out, the absence of firm EM I evidence may be due to the extensive and successive levelling operations or to some decline in occupation in this period.

Although it has not been possible to establish an undisturbed LN/ EM I sequence from Knossos, several important conclusions can be drawn in relation to the N/ EM I transition. First, levelling is a crucial factor for the understanding of the N/ EM I stratigraphy, since it was a standard foundation procedure at Knossos. The more detailed a reconstruction of its mechanism and effects, the better and clearer the picture of the pre-levelling stratigraphy. Second, one should not expect to find traces of the N/ EM I transition in the Central Court. Finally, the LN West Court evidence and sounding FF in particular, must preserve a bigger part of the LN sequence than the Central Court, because of the topography in this part of the hill.

2.3. Knossos stratigraphy in the literature

Several reconstructions of the N/ EM I Knossos stratigraphy have been attempted in the archaeological literature. First, A. Evans (1904, fig. 7; 1921, fig. 4) presented an undisturbed N/ EM sequence from the West Court, where above the Neolithic came a thin "sub-neolithic" stratum, succeeded by an EM I, EM II and EM III stratum. This sequence was later revised by Warren (1965, 17, 24-25) and by Wilson (1984, 30-36), who reconstructed, in the place of the "sub-neolithic" stratum, mixed N/ EM levels.

A. Evans' reconstruction and its revisions have been discussed in greater detail in a different context (Vol. II, App. II, B6, pp. 30-

31). There, it is established that A. Evans' reconstruction is an "idealised" stratigraphic sequence, which was put together by combining data from eight separate West Court test-pits. It seems, then, reasonable to suppose that A. Evans put forward a schematic sequence of all pottery phases he was able to identify among the material excavated from West Court, without paying attention to strictly stratigraphic data. However, he does not seem to have a clear picture of the character of the "sub-neolithic" pottery and period. In one case (Evans A., 1904, 22-24), he includes in it various LN and EM types of ware and fabric, while in a later study he characterises it as a homogeneous period of "decadence ... and transition to new methods" (Evans A., 1921, 38, 56).

A more general remark on Knossos stratigraphy is made by Renfrew (1972, 71), who attributes the LN Central Court stratum I to a hypothetical FN horizon. He does not put forward any stratigraphic or pottery typology arguments to support his suggestion. He just includes Knossos stratum I in a short list of sites he considers as FN. According to him, the term "FN" should replace "sub-neolithic" in the characterisation of the latest phase of the Neolithic. His Knossos choice of data, though, is not very successful, since stratum I pottery does not belong to the latest neolithic phase of Knossos, but is very closely related to stratum II (Vol. II, App. II, C2). Moreover, there are stratigraphic reasons (1.2), which indicate that such a phase should be looked for in the West and not in the Central Court where the top LN levels were removed.

Later, Vagnetti (and Belli, 1978, 132, 157) adopts Renfrew's FN horizon for Crete, but she does not agree with him about a FN date for Knossos stratum I. She makes the point that the pottery typology of this stratum is too close to that of LN stratum II and, therefore, should belong to the same period. She also makes clear that stratum I should be earlier than FN Phaistos. On the other hand, Warren (1980, 489) assigns Knossos stratum I to the FN and Cadogan (1983, 508) to the EM I period, without putting forward any arguments to support their suggestions.

Central Court A. Evans' 1923-24 successive strata a (Houses A and B) and b have been also discussed in the literature. First, A. Evans (1921, 38) dated stratum b to the "sub-neolithic" period, but later he viewed it as similar to the LN stratum a (Evans A., 1928, 8-12). Warren (1965, 30, note 11; 1969, 109, note 1) attributed stratum b to the EM I period, based on pottery illustrations published by A. Evans (1928, fig. 3). However, as it has been demonstrated in a different context (Vol. II, App. II, C4, p. 48), stratum b evidence is not valid, because all pottery from it was mixed with that of stratum a. Moreover, most of the EM I shapes identified by Warren are not mentioned in the daybooks of the excavation, where only "pedestalled chalices" of a possible EM I date are reported (Ch. IV, 2.1.1). Finally, stratum b is too poorly preserved to be considered as an undisturbed piece of evidence (Vol. II, App. II, B5).

Vagnetti (and Belli, 1978, 132) questions the stratigraphic position and the LN date of stratum a Houses A and B. She agrees with J.D. Evans (1964, 184, 188; 1971, 113) that stratum a lies, in terms of horizontal stratigraphy, above stratum II, but she argues that this only means that it is later than stratum II. She uses this argument to support a FN date for strata a and b. However, J.D. Evans makes clear, in the same publications she quotes, that stratum a belongs to the stratigraphic horizon of stratum I, since the same yellow kouskouras layer, which seals stratum II, underlies LN strata I and a (Vol. II, App. II, B8).

All studies, referred to, up to now, are general and tend to put forward various reconstructions of the N/ EM I Knossos sequence, without discussion or documentation. In this sense they all are hypothetical. Only Vagnetti offers supporting arguments for her suggestions, but yet again her documentation is not careful or detailed. What is apparent in all of them, is that they try to identify a N/ EM I transitional phase in the Central Court. For this reason, they choose the latest stratigraphic units from this court, namely stratum I and strata a and b, and propose different dates, ignoring the effects of Minoan levelling. Warren's aim, in

attributing stratum b to EM I, is somewhat different, because he tries to locate a stratified EM I deposit and not the latest phase of the Neolithic (FN), but he makes an unfortunate choice of data, from the stratigraphic point of view.

As it has been demonstrated in the previous section (2.2), the Central Court is not the place to look for traces of the N/ EM I transition, since, as a result of levelling, the top LN levels of stratum I as well as all EM evidence has been erased. It is in the West Court where such traces may survive, because this part was less deeply affected by Minoan levelling. This was first realised by the main excavator of the neolithic settlement of Knossos, J.D. Evans (1971, 97). His excavation into the neolithic levels of the West Court (soundings AA/ BB, EE, FF), although it did not reveal EM I deposits stratified above LN or FN ones, brought to light evidence of the FN occupation in sounding FF (Vol. II, App. II, C7). Wilson (1984, 22-27) agrees with J.D. Evans and reaches the same conclusion about the effects of levelling on the LN and EM deposits of the Central Court. He also recognises the importance of West Court and sounding FF for the understanding of the FN/ EM I transition at Knossos.

3. Phaistos

The neolithic settlement of Phaistos lies on a rocky hill close to the Yerokampos river in the plain of Messara (Vol. II, App. III, A; fig. 1). As at Knossos, a large MM-LM Palace was built right on top of it. Pernier and Levi were the main excavators of the site, while Vagnetti (1972) published in detail the neolithic settlement. Neolithic remains came to light everywhere beneath the Palace and belong to a single period, the FN. EM I material was mainly found in mixed deposits, but no substantial buildings of this period were identified.

3.1. FN stratigraphy

The FN stratigraphy of Phaistos is presented in detail in a different context (Vol. II, App. III, B). Data from all sixteen soundings (I-XVI) sampled by Vagnetti (1972) are put together and their stratigraphies are summarised on three tables (Vol. II, App. III, Tables 1-3). Soundings are spred around the Central Court, the South Sector and the West Court of the Palace and one of them (XVI) lies in the area of Chalara, at the foot of the Phaistos hill. The emerging picture is that of purely FN deposits stratified below mixed FN/ EM ones or sealed below Minoan floor deposits. Although the stratigraphies of the sixteen soundings differ among themselves, it was possible to reconstruct two general FN strata at Phaistos (Vol. II, App. III, B1).

3.2. N/ EM I transition

There is no concrete evidence for a smooth undisturbed FN/ EM I transition from Phaistos. The occurrence of mixed FN/ EM deposits or Minoan floors above the top FN strata indicates that levelling operations caused the same type of disturbance at Phaistos as at Knossos. The scale of the Minoan edifice itself dictated large-scale levelling for the creation of flat building platforms by filling in sloping ground and truncating higher points. As a result, no pure EM I deposit was found at Phaistos, with the exception of an EM stratum above the FN deposit in Central Court sounding V (Vol. II, App. III, Table 1). The pottery from this stratum may belong to the EM I period (Warren, 1965, 17; Wilson, 1984, 254). Finally, the same question arises here, as at Knossos (2.2), about the validity of the evidence on the existence of an EM I settlement at Phaistos, since no architectural remains have been found. The answer is the same. Minoan levelling must be responsible for the lack and removal of such evidence.

3.3. Phaistos stratigraphy in the literature

The FN stratigraphy of Phaistos has not been the subject of long discussions in the literature. Right from the beginning it was realised that the site was occupied during a single period and was universally accepted that this was the latest phase of Cretan Neolithic. At this point problems start and concern different interpretations of the co-occurrence of neolithic and EM I pottery in mixed deposits beneath the Minoan Palace. Mosso (1908) in his review of pottery styles of the two periods presents them as a single unit. Pernier (1935, 85-106), on the contrary, draws a firm dividing line between the two and considers them as belonging to two successive periods. However, none of them discusses the disturbance caused by Minoan levelling operations.

Levi (1964, 4) was first to speak of the removal of deep and plentiful neolithic strata from the top of the hill and the use of the material swept away for filling other areas further down the slope, during levelling operations for the Palace. The problem is that, although he aknowledges the disturbance thus caused to the neolithic strata, he seems to ignore its possible effects on the EM I deposits of the site. Struck by the "beauty" and variety of the Phaistos neolithic pottery, he characterises it as "chalcolithic" and views it as belonging to a flourishing period of creativy and opening up to new influences from the Aegean and Anatolia. According to him, the Minoan Palace civilisation originates from this period. As stratigraphic evidence for the duration and independence of this period, he uses the occurrence of undisturbed neolithic strata in the Central Court area (Vol. II, App. III, Table 1).

When he comes to the discussion of the EM I period at Phaistos (Levi, 1964, 5), though, he views it as a short transitional phase between the latest phase of Neolithic (his "chalcolithic") and the MM Palace era. He uses as stratigraphic evidence, this time, the presence of small numbers of EM I sherds among the purely neolithic strata as well as the absence of unmixed deposits of this period from

Phaistos. His facination with Phaistos neolithic pottery is apparent in a later study of his (Levi, 1965), where he presents in detail, sherd after sherd, the various neolithic/ chalcolithic styles and emphasises the relative monotony of the EM I ones, in order to support his reconstruction of the N/ EM I Phaistos sequence. The same arguments re-appear in another general work of his (Levi, 1976).

It is obvious that Levi using, in a selective way, the peculiarities of the Phaistos stratigraphy and the effects of levelling, tried to support his theory on the origins of Minoan Palatial civilisation from the "chalcolithic" culture. He refers to "plentiful" neolithic strata, which must have been revoved during levelling, but does not acknowledge the role of the same factor in his interpetation of the EM I part of the sequence, which must have been even more severely affected, because of its proximity to the surface. Another problem is that all his studies have a general character and do not specify or quantify the samples used in a systematic way. The end result is that of generalities and obscure processes of documentation.

Finally, Vagnetti (1972) puts the record straight in her detailed and systematic publication of Neolithic Phaistos. She uses as sample all Levi's soundings into neolithic deposits. She separates the neolithic from the EM I pottery and period and gives a well-documented reconstruction of the stratigraphy of the site, taking into account the effects of Minoan levelling operations. There becomes obvious that the occurrence of EM I pottery in mixed N/ EM above neolithic strata is a result of these activities. In several cases, the upper levels of the neolithic sequence are mixed with intrusive EM and MM material for the same reason (Vol. II, App. III, Table 1: soundings I-II and Table 3: soundings XII-XIII).

It is obvious that the main topic discussed in the literature is the name and character of the neolithic occupation at Phaistos. Levi considers it as "chalcolithic" and Vagnetti as purely neolithic and dates it in the FN period (and Belli, 1978, 128). The same date is

also proposed in two general studies (Renfrew, 1972, 71; Warren, 1980, 489), while Cadogan (1983, 508) includes FN Phaistos in a brief list of sites, which should define the earliest phase of the EM I period. The last three studies use Phaistos in an effort to formulate different working hypotheses for the relative chronology of pre-palatial Crete.

4. FN/ EM I sites

Levena-Yerokampos II is the only site with a stratified FN/ EM I sequence.

4.1. Levena-Yerokampos II

The Yerokampos II tomb from the EM I-MM cemetery of Levena provides rather firm evidence on the stratigraphic succession of the FN and EM I periods in Crete (Vol. II, App. X, A; fig. 1). Unfortunately this site is unpublished and very little is known on its stratigraphy (Vol. II, App. X, B). It is clear, though, that a thin floor deposit with a homogeneous FN pottery assemblage was stratified below a large, purely EM I deposit.

5. N/ EM sites

Nine sites belong to this group. All of them, were occupied in the LN/ FN and the EM periods. Their stratigraphies have been disturbed in one or the other way.

5.1. Eileithyia cave

This cave is located close to the north coast of Crete and was occupied from Neolithic to Roman times (Vol. II, App. IV, A; fig. 1). A large amount of FN and EM I pottery was recovered, but always in mixed deposits. Disturbance was caused by natural factors and by human interference during the long use of the cave (Vol. II, App. IV, B).

5.2. Miamou cave

This cave is situated in South Crete and was occupied in the LN/ FN and EM periods (Vol. II, App. IX, A; fig. 1). Miamou stratigraphy is somewhat complicated, because part of it was cut off by an earth and rock slide, while the cave, as a whole, was disturbed by human activity. It was possible to distinguish two general strata (Vol. II, App. IX, B). The lower one corresponded to a LN/ FN habitation deposit and the upper one to an EM sepulchral stratum. The EM pottery seems to belong to the EM II period (Vol. II, App. IX, G). It is obvious that Miamou stratigraphy does not offer any real information on the N/ EM I transition. Nevertheless, one cannot help thinking that more useful data would have emerged, if excavation had not taken place so many years ago, around the end of the last century.

5.3. Mochlos

During the course of the excavation of the EM II-MM I cemetery and settlement on the small island of Mochlos in Eastern Crete, neolithic material came to light below EM II deposits (Vol. II, App. XIII, A; fig. 1). Some FN material was found stratified under the EM II floor deposit of Tomb V, while neolithic or EM I material was found scattered below the floors of the houses of the settlement (Vol. II, App. XIII, B). Although the EM II-MM I settlement and EM II Tomb V are clearly stratified above the earlier occupation levels (Soles, 1978), it is not clear to which period the earlier occupation can be attributed.

Very little is published about the pre-EM II occupation phase from the settlement (Seager, 1909). Tomb V pottery of the same phase includes EM I-II pottery and a small group of FN types (Vol. II, App. XIII, C, E). The co-occurrence of FN and EM material in this early deposit is attributed by Zois (1973, 104) to a post-excavation accidental mixing of its material with EM II pottery from the overlying EM floor. Another interpretation is suggested by Treuil (1983, 34), who agrues that mixing took place during levelling, prior

to the foundation of Tomb V. In either case, Mochlos does not provide firm stratigraphic evidence on the N/ EM I transition.

5.4. Trapeza cave

The large cave of Trapeza, in the Lasithi plateau, in Eastern Crete, was mainly occupied in the FN period, but it was still in use in the EM I, EM II, EM III and MM times. (Vol. II, App. XIV, A; fig. 1). The neolithic and EM stratigraphy was characterised by mixed deposits. Only in area Δ 17 a pure neolithic deposit was found stratified below an EM I to MM I mixed stratum (Vol. II, App. XIV, B). Finally, it should be made clear that the EM I pottery from Trapeza includes but a few typically EM I traits and, therefore, the use of the cave in this period is not certain (Vol. II, App. XIV, E).

5.5. Kastellos open settlement and rock-shelters

This site is located close to the cave of Trapeza, in the Lasithi plateau, and consists of an EM II-MM open settlement and five ajoining burial rock-shelters (Vol. II, App. XVII, A; fig. 1). FN material was found under the foundations of the settlement and in two of the rock-shelters (T4 and T11). In all these cases, neolithic deposits were succeeded by mixed EM II/ MM strata (Vol. II, App. XVII, B).

5.6. Lera cave

The cave of Lera, in the peninsula of Akrotiri in West Crete, was occupied from the Neolithic right through the EM I, EM II, MM, LM and historic times (Vol. II, App. XX, A; fig. 1). Material of all these periods turned up in mixed deposits (Vol. II, App. XX, B). Guest-Papamanoli (and Lambraki, 1976) has established an EN I to LN sequence from Lera, on the basis of pottery typology, but as our study has shown, the Lera assemblage finds its closest parallels in the LN and FN period (Vol. II, App. XX, E).

5.7. Koumarospilio cave

The cave of Koumarospilio, in the peninsula of Akrotiri, in West Crete, was mainly occupied in the Neolithic and less in the EM and MM periods (Vol. II, App. XXI, A; fig. 1). The stratigraphy of the cave was disturbed and characterised by mixed deposits. In one apparently undisturbed deposit, the lower levels were purely neolithic, while the upper ones contained LM and recent material (Vol. II, App. XXI, B). The neolithic pottery from Koumarospilio can be safely dated in the LN/ FN period (Vol. II, App. XXI, E).

5.8. Ellenes Amariou rock-shelter

This rock-shelter is located on a hill slope close to the modern village of Ellenes Amariou in West Crete (Vol. II, App. XXII, A; fig. 1). Apart from neolithic, there was found material of the EM, MM, LM, Classical and Roman times always in mixed deposits (Vol. II, App. XXII, B). The finds from Ellenes Amariou are unpublished, with the exception of a small group of FN pottery (Vol. II, App. XXII, C).

5.9. Platyvola cave

The large cave of Platyvola in West Crete was occupied from neolithic to Roman times (Vol. II, App. XXIV, A). Four areas (I-IV) of the cave were excavated and, in the first three, pottery of all periods was found in mixed deposits (Vol. II, App. XXIV, B). In area IV, which was inaccessible, only bone remains were found. LN/ FN pottery was present in rather small quantities, while EM I and II material was the most abundant.

6. LN sites

Three LN sites belong to this group and none of them was occupied in the EM I period.

6.1. Mitropolis Gortinas

Traces of a MN/ LN occupation were found in the area of a Minoan villa at Mitropolis Gortinas, in South Crete (Vol. II, App. VI, A-B). A neolithic deposit, sealed below LM strata, was excavated there. The neolithic pottery includes MN and LN types and, therefore, this site may have been occupied during these two periods. It is not possible to be more precise, because of the lack of architectural remains or stratification within this deposit.

6.2. Magassas rock-shelter and house

A LN rock-shelter and house, at a small distance from each other, were excavated in the plateau of Magassas, in Eastern Crete (Vol. II, App. XI, A; fig. 1). A deep (1 m.) neolithic deposit was excavated in the rock-shelter and a thinner one (0.30 m.) in the house (Vol. II, App. XI, B). No traces of any other period were found. Pottery was homogeneous and belonged to the LN period, with the exception of a few EN I sherds, which probably came from the rock-shelter and may indicate an EN I occupation of the site (Vol. II, App. XI, E).

6.3. Gerani cave

The cave of Gerani is located close to the north coast of West Crete (Vol. II, App. XIX, A; fig. 1). The excavator established an apparently undisturbed EN II to LN sequence, using stratigraphic and pottery data (Tzedakis, 1970; 1971; 1979). However, there are important geological factors, which, if they had been taken into account, could have altered the picture of the uninterrupted succession of neolithic strata (Vol. II, App. XIX, B, E). Finally, as our revision has shown, pottery does not include a full EN II to LN typological sequence, but it shows closer affinities with LN Knossos and fewer with FN Phaistos (Vol. II, App. XIX, D).

7. FN sites

Eight sites belong to this group and were occupied in the FN period only.

7.1. Partira rock-shelter

This is a rock-shelter on the south foothills of Mt Ida in Central Crete. A small number of FN vases was collected from top soil. These were characterised as grave-goods, although no human skeletal material was found (Vol. II, App. V, A-B; fig. 1).

7.2. Ayios Nikolaos rock-shelter

The rock-shelter of Ayios Nikolaos is located in a highland, SW of Palaikastro, in Eastern Crete (Vol. II, App. XII, A-B, fig. 1). A small FN pottery assemblage was found in it, close to an accumulation of human skulls.

7.3. Grymani rock-shelter

The rock-shelter of Grymani is located in the area of the Lasithi plateau, in Eastern Crete (Vol. II, App. XV, A-B; fig. 1). A small amount of FN pottery was collected from top soil. With the exception of an EM vase, no finds of any other period were found.

7.4. Skaphidia cave

The cave of Skaphidia in the area of Lasithi, in Eastern Crete, was occupied in the FN period (Vol. II, App. XVI, A; fig. 1). There was excavated a FN deposit, sealed below a stalactitic layer (Vol. II, App. XVI, B). Pottery formed a homogeneous FN assemblage, while the presence of a small amount of human skeletal material in this deposit indicates a possible use of the cave for burials.

7.5. Acropolis Gortinas settlement

Two trenches, opened on the acropolis of the ancient city of Gortina in South Crete, brought to light traces of a FN occupation, stratified below LM strata (Vol. II, App. VII, A-B; fig. 1). No neolithic architectural remains were found, but pottery formed a homogeneous FN assemblage.

7.6. Kaloi Limenes house

A small FN house was excavated close to the coastal village of Kaloi Limenes in South Crete (Vol. II, App. VIII, A-B; fig. 1). Within a shallow FN deposit, the remains of a house came to light, while no trace of any other period was found.

7.7. Nerokourou settlement

The remains of a FN open settlement, including a small house and several working platforms, were excavated at Nerokourou in West Crete (Vol. II, App. XXIII, A; fig. 1). The top levels of the FN deposit were mixed with MM-LM pottery, while an isolated MM wall cut across them. The presence of this later material is associated with the nearby MM-LM settlement. Below these levels, came pure FN strata within a shallow deposit (Vol. II, App. XXIII, B).

7.8. Kastelli Phournis well

A small assemblage of FN vases was found in an ancient well, which is located close to the modern village of Kastelli Phournis, in Eastern Crete (Vol. II, App. XVIII, A; fig. 1). Little is known about the neolithic stratigraphy, because the excavation had a rescue character (Vol. II, App. XVIII, B).

8. EM I sites

8.1. Debla settlement

The open settlement of Debla in West Crete was occupied during the EM I-II period and then again in Roman times (Vol. II, App. XXV, A). Stratified evidence comes from six separate buildings or houses (buildings 1 to 4, building in trench G and watch-tower). The first five are EM, while the watch-tower was most probably built in Roman times. All architectural units were poorly preserved and floor deposits were almost nowhere found "in situ" (Vol. II, App. XXV, B). Nevertheless, it was clear that the site was not occupied before the EM period, while, on the basis of pottery evidence, it was possible to distinguish four phases (I-IV) of occupation. Phases I to III are EM and phase IV Roman (Vol. II, App. XXV, E).

9. The N/ EM I transition

It is obvious that there are no undisturbed N/ EM I stratigraphic sequences from Crete. The only exception is Levena-Yerokampos II tomb, where a FN deposit was found stratified below an EM I one. However, the FN assemblage from this tomb belongs to a specialised group of pottery (the "Partira" group), which represents a short final phase of the Neolithic and, typologically, is very close to EM I. In consequence, it does not incorporate the full typological range of LN/ FN Crete (Ch. XII, 4.2, 5). On the other hand, Knossos and Phaistos were continuously occupied from Neolithic to EM times, but their stratigraphies were disturbed by Minoan levelling operations. All other sites were characterised by mixed N/ EM deposits or were occupied in a single period: the LN or FN or EM I.

Treuil (1983, 34-44) has also studied the stratigraphic evidence on the N/ EM I transition in Crete. All sites he uses as sample, with the exception of the EM II settlements of Vassiliki and Myrtos, are included in our study too and are the following: Mochlos, Knossos,

Levena-Yerokampos II, Phaistos and Debla. He points out that the stratigraphies of all sites were disturbed in one or the other way and, therefore, there are no signs of a gradual and continuous transition from anywhere on the island. He also observes a discontinuation in the occupation of various sites, since the EM settlements of Debla, Vassiliki and Myrtos were not preceded by neolithic ones (Treuil, 1983, 43-44).

The reconstruction of the N/ EM I transition presented in this chapter is quite different. Knossos and Phaistos are the main sites for the understanding of the transition. The disturbance caused by Minoan levelling operations is not considered as indicating discontinuation or interruption, but as a factor that should be taken into account for the interpretation of the N/ EM I stratigraphies from these sites. Although Treuil (1983, 36-38, 39-42) acknowledges the importance of levelling as a means of stratigraphic disturbance, he does not evaluate its implications. One even gets the impression that he would expect uninterrupted sequences, in order to consider the occupation of Knossos and Phaistos as continuous. This attitude is not very realistic, given the extent of levelling operations, which created complicated stratigraphies (2.2, 3.2). Finally, one has to rely on pottery typology for the final definition of the N/ EM I transition. As for the second point made by Treuil about the shift in the location of sites, it is valid. However, it does not seem to have as big a cultural significance as suggested by him, since habitation continued into EM I times at the two main sites of Knossos and Phaistos.

CHAPTER III

MECHANISM OF POTTERY CHANGE AND CONTINUITY AT NEOLITHIC KNOSSOS

1. Introduction

Knossos EN I to LN pottery sequence is characterised by a remarkable homogeneity, which has become evident in all previous studies (Mackenzie, 1903, 157-164; Evans A., 1921, 35-38; Furness, 1953; Evans J.D., 1964) and is commented upon by J.D. Evans (1968, 274; 1971, 115). It is further analysed in this context, on the basis of shape, handle/ lug, ware and decoration typology (Vol. II, App. I, C; App. II, C1-C7). Homogeneity is demonstrated through a strong trend of continuity across the sequence and the nature of change from one period to the other. Change operates on two levels, quantitative and stylistic, within a close set of typological traits. At the same time, a small number of new types is introduced along the sequence. All this takes place against a background of relatively advanced pot making technology right from the EN I.

2. EN I to MN Knossos pottery

2.1. Quantitative changes

Quantitative changes occur in all aspects of typology and constitute chronological indicators. With the exception of ripple burnished decoration, which first appears in the EN II, all main typological traits are present in all periods in different rates of frequency of occurrence. A few among them acquire maximum popularity in each period and become its hallmarks (Vol. II, App. I, Tables 2, 4-5). In consequence, each period typologically overlaps with the previous and following one and quantitative data are necessary for the distinction between them. This is also emphasised by Furness (1953, 100), when she says that "it is possible to know the date of other collections of neolithic sherds from the site (Knossos) ... provided only that there is a sufficient number". Quantitative

changes in the frequency of occurrence of rare shapes and handle/ lug types are not so indicative as their presence or absence in each period (Vol. II, App. I, Tables 3-4).

In EM I, rounded bowls of type 1 and bowls with offset rim of type 4 are the most popular (Vol. II, App. I, Table 2). Moreover, knobbed wishbone handles and plastic and pointillé decoration are characteristic of this period only (Vol. II, App. I, Tables 4, 5). In EM II, the same shapes as before are the commonest, while straight-sided bowls of type 2 pick up in popularity too (Vol. II, App. I, Table 2). Ripple burnished decoration is also introduced in this period, but is incised decoration which enjoys maximum popularity (Vol. II, App. I, Table 5; Evans J.D., 1964, fig. 46). In MM, profiled carinated bowls of type 3b and ripple burnished decoration constitute major hallmarks (Evans J.D., 1964, fig. 46). Within the EM I to MM span changes also occur in the relative frequency of burnished versus unburnished coarse ware and of plain versus decorated pottery. Both aspects show a trend of gradual increase through time. In EM I, the great majority of coarse ware is burnished, while the opposite is the case in MM (Vol. II, App. I, C, p. 20). The number of occurrences of decorated sherds per 100 kg. of pottery is 112 in the EM I and 608 in the MM (Vol. II, App. I, C, p. 20).

2.2. Stylistic changes

Stylistic changes appear in the area of decoration, which is the most sensitive indicator of change in the Knossian assemblage (Evans J.D., 1973, 142). Each type of decoration, with the exception of ripple burnished decoration, has its own unmistakable attributes as to execution, syntax and pattern repertoite, in each period. The last attribute has a quantitative aspect to it, in the sense that repertoires partly overlap and certain patterns enjoy maximum popularity in each period. A gradual process of pattern elimination and standardisation in syntax is followed right through the sequence.

Plastic decoration (Vol. II, App. I, C, p. 21) is very simple and does not form elaborate patterns. It starts off, in EN I, with three basic units -knobs, pellets and strips- and in EN II and MN only knobs are in use. These units are never combined and are arranged in groups on the upper half of the vase. Plastic decoration becomes almost extinct after the end of the EN II (Evans J.D., 1964, fig. 46).

Pointillé decoration (Vol. II, App. I, C, pp. 21-22) is stylistically very distinctive. In EN I, is characterised by dense style in syntax and has a rich pattern repertoire of zig-zag bands, triangles, strips and chequerboard, bordered by incised lines. Zig-zags are by far the most popular and characteristic of the period. Compositions are homogeneous, repetitive and arranged horizontally or diagonally on the pot surface (Evans J.D., 1964, fig. 27: 1-8, 19). Execution is careful with neat, small incised dots. In EN II, pointillé decoration loses its character. It is used as auxiliary filling technique for incised decoration and drops all EN I patterns apart from chequerboard (Evans J.D., 1964, fig. 32: 12). Execution is dull. In MN, this decoration keeps its auxiliary character and impressed dots are introduced for the first time.

Incised decoration (Vol. II, App. I, C, pp. 22-23) has its own style in each period. In EN I, this type of decoration is similar as to syntax and pattern repertoire to EN I pointillé decoration. Patterns include: zig-zags, hatched triangles, hatched bands and square net. Execution is careful, neat and even (Evans J.D., 1964, fig. 28: 1-10). In EN II, all EN I patterns are kept and new ones, namely, tree pattern, wolf's teeth and rows of romboids are introduced (Evans J.D., 1964, fig. 32: 24, 26, 31). The EN I set of patterns is ruled by the EN I principles in syntax, but compositions are not always homogeneous. On the other hand, the new EN II patterns are free-standing and vertically or horizontally arranged in open style. Execution of all patterns is irregular and the overall appearance lacks in symmetry and regularity. In MN, incised decoration shows definite steps towards standardisation and pattern

elimination. The only patterns in use are: hatched triangles, which are very popular, hatched bands and alternating hatched squares (Evans J.D., 1964, fig. 35: 21-24). Compositions are dense, repetitive and homogeneous. Execution is regular and neat.

The stylistic evolution of the Knossian sequence is also determined by the gradual abandonment of burnish on coarse ware, which changes the appearance of the assemblage and makes distinction between coarse and fine burnished ware much clearer. At the same time, a progressive trend towards specialisation in shape/ ware/ decoration can be observed. Decoration is mainly applied on fine rounded and carinated bowls and bowls with offset rim and only plastic decoration is associated with coarse deep bowls. Ripple burnished decoration, in particular, is almost exclusively used on fine profiled carinated bowls of type 3b right from the EN II. The extreme popularity of this shape and type of decoration in MN is exceptional for Knossos (Vol. II, App. I, Tables 2, 5). For the first and only time a fine ware shape enjoys absolute maximum popularity (Vol. II, App. I, Table 2), since rounded bowls and straight-sided bowls, which are the most popular types in EN I and EN II, appear in coarse and fine ware (Vol. II, App. I, C, p. 16). This peculiarity of MN pottery accounts for the exceptionally high number (608) of decorated sherds per 100 kg. of pottery in this period.

Finally, another aspect of ware/ decoration specialisation is the difference in syntax of pointillé and incised decoration on coarse and fine ware. Decoration on coarse ware consists of groups of dots or incised lines on the upper part of the vase and, on fine ware, of densely arranged staple patterns (Vol. II, App. I, C, pp. 21-23).

2.3. New types

A small number of new types is introduced during the EN I to MN span. Chalices and fruitstands appear in EN II and hole-mouthed pots, beakers and ashtrays in MN (Vol. II, App. I, Table 3). In EN II, decoration is enriched with ripple burnished decoration and incised

tree-pattern, wolf's teeth and rows of romboids. These incised patterns are smaller-sized versions of the basic geometric forms of zig-zag and triangle, on which most EN I-MN staple patterns are based. What is really new about this set of patterns is their syntax. For the first time, instead of dense syntax, patterns are free-standing. In MN, this group of patterns is dropped. With the exception of ripple burnished decoration, all other new types have a small popularity and do not affect the typological character of the assemblage.

3. LN Knossos pottery

LN Knossos pottery sequence evolves at three stages: Central Court stratum II, Central Court stratum I and LN West Court including sounding FF (Vol. II, App. II, C1-C2, C6-C7). The LN Throne Room System evidence (Vol. II, App. II, C3) is here included, because it complements stratum I, which is not well known (Vol. II, App. II, C2, pp. 41-42). The remaining units of LN evidence, namely Central Court strata a and b (Vol. II, App. II, C4-C5) are not discussed in this context, since their evidence does not add any new information. The rate of change in this period is higher than before, but shows strong signs of continuity and the same process of evolution with the earlier part of the sequence.

3.1. Central Court stratum II

Central Court stratum II pottery (Vol. II, App. II, C1) has a MN/LN transitional character (Evans J.D., 1964, 182), in the sense that all MN hallmarks are present in it, in smaller numbers. At the same time, new types appear in low frequencies of occurrence.

3.1.1. Quantitative changes

Quantitative changes occur in all aspects of typology. The most characteristic are a considerable drop in popularity of major MN traits, such as profiled carinated bowls, ripple burnished decoration and incised hatched triangles. All eight MN shape types are present and rounded bowls and straight-sided bowls prevail in popularity. At the same time, spherical/ squat bowls with collar rim and high-necked jars are introduced in small numbers (Vol. II, App. II, Table 1). Quite a few MN rarer shapes drop out of fashion and none is added (Vol. II, App. II, Table 2). In the area of handles/ lugs all MN types are present and horn-like lugs reappear after the EN I. Wishbone and flap/ tab handles are less popular than before (Vol. II, App. II, Table 3).

The great majority of coarse ware is now buff unburnished. The overall amount of LN decorated sherds has considerably dropped from 608 occurrences per 100 kg. of pottery in MN to 300 in stratum II (Vol. II, App. II, C1, p. 39). This downward trend is directly related with the drop in popularity of ripple burnished decoration. All MN types of decoration are in use and two new ones, pattern burnishing and channelling, are here introduced at very low rates of frequency. Finally, incised decoration is now the most popular (Vol. II, App. II, Table 4).

3.1.2. Stylistic changes

Stylistic changes in decoration follow a gradual process of detachment from MN types. Ripple burnished decoration has a somewhat fainter appearance and slightly thinner ripples. Incised and pointillé/ impressed decoration on fine ware keep their MN character, in the sense that they are still characterised by dense style in syntax (Vol. II, fig. 7: 12-18), but hatched bands become more popular than hatched triangles (Vol. II, fig. 7: 12-13, 15-17). Ladder pattern (Vol. II, fig. 7: 18) is here introduced in small numbers and follows the same dense style in syntax. On the other

hand, a group of new patterns of limited popularity, such as, horizontal single or double pointillé lines, single rows of strokes and seam patterns are arranged in open style (Vol. II, fig. 7: 9-10, 19-21).

Changes also occur in the area of ware types and surface treatment and alter the overall appearance of the assemblage (Vol. II, App. II, C1, p. 39). The abandonment of burnish on coarse ware is now fully established and this ware acquires a distinct buff surface colour, while a small group of it is red wiped/ scored for the first time. Fine burnished ware loses gradually its bright appearance and becomes somewhat duller. At the same time, a small group of **thin-walled, buff unburnished and incised ware** makes its first appearance.

Shape/ ware/ decoration specialisation continues along the same lines. As in MN, carinated bowls and bowls with offset rim appear exclusively in fine ware, while wishbone and flap/ tab handles have, for the first time, a different morphology according to ware (Vol. II, App. II, C1, p. 38). Moreover, a new type of handle, long solid handles, is exclusively associated with spoons/ ladles (Vol. II, fig. 5: 7-8). Most types of decoration are mainly used on fine bowls and only plastic and channelled decoration appear on coarse bowls. Incised decoration shows signs of shape/ pattern specialisation. Hatched triangles mainly appear on carinated bowls, hatched bands and ladder patterns on rounded bowls and spherical/ squat bowls with collar rim, and seam patterns on rounded bowls (Vol. II, App. II, C1, p. 41). Finally, the style of execution of incised and pointillé decoration is different, according to ware. Execution on fine pottery keeps its MN careful and neat character, the only difference being that incisions are now narrower and shallower. On coarse ware execution is rough and, in certain cases, takes the form of pitting or grooving (Vol. II, App. II, Table 4).

3.1.3. New types

The following types are introduced in stratum II: spherical/ squat bowls with collar rim (Vol. II, fig. 4: 38-39), high-necked jars (Vol. II, fig. 4: 37), horn-like lugs, long solid handles on ladles/ spoons (Vol. II. fig. 5: 7-8), red wiped/ scored coarse ware, buff thin-walled unburnished and incised ware, channelled decoration, pattern burnished decoration, pitting and grooving. Also a small number of new patterns, such as ladder pattern (Vol. II, fig. 7: 18), seam patterns, single rows of parallel strokes and pointillé single/ double lines, and open style in syntax make their first appearance in this stratum (Vol. II, fig. 7: 9-10, 19-21). All new types have a small popularity.

3.2. Central Court stratum I

Central Court stratum I typology is complemented by the Throne Room System evidence (Vol. II, App. II, C2-C3). This stratum has a fully developed LN character and is characterised by limited quantitative and stylistic changes. On one hand, all MN hallmarks, still present is stratum II, drop out of fashion, on the other hand, all stratum II new types are present and certain among them become predominant.

3.2.1. Quantitative changes

The most important **quantitative changes** refer to the almost total retreat of profiled carinated bowls, ripple burnished decoration and incised hatched triangles. Major changes also occur in surface treatment by the predominance of red wiped/ scored over the standard stratum II buff unburnished coarse ware. Fine burnished ware undergoes a gradual change towards duller surfaces and poorer quality of burnish (Vol. II, App. II, C2, p. 43). In the area of decoration, incised hatched bands and ladder patterns become much more common than they were in stratum II and almost monopolise the incised pattern repertoire (Vol. II, App. II, C2, p. 44, C3, p. 47; fig. 9:

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8-13). These changes have a big impact on the appearance of the assemblage and constitute major stratum I hallmarks.

Minor changes occur in other areas of typology. Spherical/ squat bowls with collar rim, which first appeared in stratum II, become more common in this stratum, while rounded and straight-sided bowls remain the most popular shapes (Vol. II, App. II, Table 5). Buff thin-walled unburnished and often incised/ grooved ware, which was introduced in stratum II, becomes more popular. Red/ white washed coarse ware makes its first appearance in small numbers (Vol. II, App. II, C3, p. 46). Incised decoration remains the most popular type and red scribble burnishing and red/ black mottling are introduced in very small numbers (Vol. II, App. II, C3, pp. 47-48). The trend of reduction in the overall quantity of decorated sherds, which started in stratum II, is more pronounced here due to the dramatic drop in popularity of ripple burnishing. The number of decorated sherds per 100 kg. falls from 300 in stratum II to 170 in stratum I (Vol. II, App. II, C3, p. 46).

3.2.2. Stylistic changes

No major stylistic changes occur in decoration. Dense style in the syntax of pointillé/ impressed and incised decoration is still the norm. A new pattern, chevron, is occasionally formed among dense grooved lines on buff thin-walled unburnished ware (Vol. II, fig. 9: 3-4). Single/ double pointillé lines, rows of strokes and seam patterns are still arranged in open style. The only difference is that seam patterns are somewhat more popular than in stratum II (Vol. II, fig. 9: 14-15). Impressed decoration is enriched with triangular and finger nail impressions besides circular and oval ones (Vol. II, App. II, C3, p. 46; fig. 8: 9-13).

Shape/ ware/ decoration specialisation continues along the same lines as in stratum II. Wishbone and flap/ tab handles continue to have a different morphology according to ware and long solid handles to appear exclusively on spoons/ ladles. Incised ladder patterns and

hatched bands become popular on spherical/ squat bowls with collar rim, while red scribble burnished decoration is exclusively used on high-necked jars (Vol. II, App. II, C3, p. 48; Pl. 10B: top left). As in stratum II, pointillé/ impressed and incised/ grooved decoration have a different style in execution according to ware. Moreover, there is a further specialisation of patterns and technique of execution. Seam patterns are neatly and carefully executed, while ladder patterns and hatched bands are often mean and even scratched after firing or impressed by a cylinder (Vol. II, App. II, C3, p. 47; Pl. 8A: top).

3.2.3. New types

Stratum I new types include: cylindrical cups (Vol. II, fig. 8: 1), flat wide plastic bands on the rim of coarse bowls (Vol. II, fig. 8: 7), square lugs, unperforated lugs, false lugs (Vol. II, fig. 8: 2-4), ring bases (Vol. II, fig. 8: 6), red/ white washed coarse ware, red scribble burnished decoration, red/ black mottled decoration, grooved chevrons on buff thin-walled unburnished ware (Vol. II, Pl. 9A: bottom left), a bigger variety in the shape of impressed dots and stamped ladder patterns or hatched bands (Vol. II, fig. 8: 9-13). With the exception of false lugs, all new types have a small popularity and were identified in the Throne Room System assemblage (Vol. II, App. II, C3).

3.3. LN West Court

LN West Court pottery is not fully published (Vol. II, App. II, C6, p. 50) and evidence has been put together from two different sources: Furness (1953) and Evans J.D. (1969-70; 1971; 1973). Furness presents LN Knossos pottery as a whole, but her sample is biased towards the West Court. J.D. Evans, on the other hand, concentrates on West Court LN soundings AA/ BB, EE and FF and classifies their pottery typology on the basis of the LN Central Court sequence of strata II and I. Nevertheless, Furness' definition of LN coincides with LN stratum I, since she uses as main criterion the predominance

of wiped/ scored coarse ware (Furness, 1953, 126), which is typical of that stratum (Vol. II, App. II, C2, p. 43). The bulk of LN West Court pottery typology overlaps, to a great extent, with Central Court stratum I. It also includes all stratum I new types and quite a few more. After a certain point of the LN West Court sequence emerges a new stylistic phase in decoration and a small number of new Phaistian-like types enter the assemblage in the top levels of sounding FF (Vol. II, App. II, C7).

3.3.1. The earlier LN West Court phase

The quantitative composition of LN West Court is quite similar to stratum I and difference between them is related to the number of new types introduced. Rounded bowls and straight-sided bowls continue to be the most popular shapes and profiled carinated bowls have a very small popularity. Necked jars of types 7 and 8 become more common. Shallow bowls, shallow carinated bowls and slashed rims on coarse bowls are here introduced and become quite common (Vol. II, App. II, Table 7). Rarer shapes are enriched with new types, such as, rectangular trays, fruitstands, chalices, ashtrays and "rhyton" (Vol. II, App. II, Table 8). Handle/ lug typology does not show any important changes in the frequency of occurrence of various types. Long-pronged wishbone handles drop out of fashion and a number of new rare types is here introduced. These are: ribbon handles with a prong at the top, vertically perforated double lugs, zoomorphic/ anthropomorphic lugs and circular ears (Vol. II, App. II, Table 9). V-shaped spouts make their first appearance in LN West Court in small numbers (Vol. II, App. II, C6, p. 54). Ring bases are more common than in stratum I and short hollow feet and small solid feet are here introduced (Vol. II, App. II, C6, p. 54).

As in stratum I, the great majority of coarse ware is red wiped/ scored and a small amount of it red/ white washed. Moreover, a small group of grey smoothed coarse ware is here introduced. Fine ware is still dully dark burnished. At the same time, small groups of finely black burnished and polished ware and of orange/ beige and bright red

burnished ware make their first appearance. Buff thin-walled unburnished and incised ware are still present in considerable numbers (Vol. II, App. II, Table 10). The overall amount of decorated pottery is 162 sherds per 100 kg. of pottery, a number very close to 170 sherds per 100 kg. from stratum I (Vol. II, App. II, C6, p. 55).

Decoration: Shape/ ware/ decoration specialisation continues along the same lines as in stratum I. Incised/ grooved decoration is still the most popular and ripple burnished decoration has a very low popularity. All other types have also a small popularity (App. II, Table 11). The main incised patterns remain hatched bands and ladder patterns and dense style prevails in syntax. Seam patterns are still arranged in open style, but they are not popular. Finally, the execution of hatched bands/ ladder patterns is mean and dull and they are sometimes stamped by a cylinder (Vol. II, App. II, C6, pp. 56-57).

New types: A considerable number of new types make their appearance in LN West Court. These are: shallow bowls, shallow carinated bowls (Vol. II, fig. 10: 4-7), rectangular trays (Vol. II, fig. 10: 13), fruitstands with open work on the foot, chalices with short cylindical feet (Vol. II, fig. 10: 15-17), "rhyton" (Vol. II, fig. 10: 18), "strainers", slashed rims (fig. 14: 1), ribbon handles with prong at the top (Vol. II, fig. 11: 8), cylindrical handles (Vol. II, fig. 11: 9), vertically perforated double lugs (Vol. II, fig. 11: 16), zoomorphic/ anthropomorphic lugs (Vol. II, fig. 11: 19-21), circular ears on bowl rims (Vol. II, fig. 11: 22), V-shaped spouts (Vol. II, fig. 12: 3), short hollow feet, small solid feet (Vol. II, fig. 12: 5-7), coarse grey smoothed ware, beige/ orange and bright red fine burnished ware and plastic rope pattern (Vol. II, fig. 12: 9). With the exception of shallow bowls and slashed rims on coarse bowls, all other new types have a small popularity.

3.3.2. The later LN West Court phase

Changes in decoration provide evidence on the emergence of a new final phase within the LN West Court. This phase overlaps with the earlier part of the LN West Court typology in all aspects but decoration. Specific data come from sounding EE, which has 19 LN levels (Vol. II, App. II, B6, p. 30). From level 13 upwards ripple burnished decoration falls out of fashion, while jabbed decoration and fluting/ ribbing are introduced in the last ten levels of this sounding (Vol. II, App. II, C6, pp. 56, 58). Jabbed decoration takes over in popularity from incised/ grooved decoration and is characterised by open style in syntax. Patterns are most often simple and consist of single or multiple lines, which run around the biggest diameter of bowls (Vol. II, fig. 12: 13-15). Open style also prevails in incised decoration (Vol. II, App. II, C6, pp. 56-57), since seam patterns become popular in the last ten levels of sounding EE (Vol. II, fig. 13: 6-11). Two new rare patterns, jabbed zig-zags and incised and channelled chevrons as well as hatched bands in jabbed technique enter the assemblage in the top levels of sounding FF. (Vol. II, App. II, C7; fig. 14: 5-8).

New types: A small number of new types appears in the later phase of LN West Court. These are: fluting, ribbing, jabbed decoration, new seam pattern variations (fig. 13: 6-11) and red/ white incrustation. A small group of new types of very small popularity is known only from sounding FF. These are: bowls with high angular carination (Vol. II, fig. 14: 2), jugs with V-shaped spout (Vol. II, fig. 14: 3-4), hatched bands and zig-zags in jabbed technique and incised and channelled chevrons.

4. General Conclusions

Knossos pottery typology of all neolithic periods (EN I to LN) is very homogeneous and shows a gradual process of change. Certain general rules determine its evolution: a. quantitative and stylistic changes, operating within a close system of basic types, define the identity of each period, b. bowls are by far the most popular shape in any period, c. coarse and fine ware categories form more or less 50% of the assemblage each, d. distinction between ware categories is based on the presence or absence of burnish on coarse ware, e. burnish on coarse pottery is gradually abandoned, but fine ware is always burnished, f. decoration is the most sensitive indicator of change and g. decoration is mainly used on fine bowls and occasionally on coarse ones. Finally, a group of new types is introduced along the sequence and do not affect the overall typological character.

The LN period is characterised by the predominance of rounded and straight-sided bowls, incised decoration and unburnished coarse ware, which is wiped/ scored in Central Court stratum I and in the LN West Court sequence. This period also shows a higher rate of stylistic changes. Stratum II has a MN/ LN transitional character, because MN hallmarks are still quite popular. In stratum I, all these features retreat and typology acquires a fully developed LN character. Finally, LN West Court can be divided in two parts. The earlier one overlaps with stratum I and the later one is characterised by changes in decoration. Impressed/ jabbed decoration becomes more popular than incised decoration and open style in syntax prevails. Finally, a bigger number than ever before of new types make their appearance in LN West Court.

CHAPTER IV

LN KNOSSOS POTTERY SEQUENCE

1. Introduction

LN Knossos pottery typology is not fully published and evidence comes from seven separate units (Vol. II, App. II, C1-C7). A first attempt to monitor the process of LN evolution through the three main units of evidence, Central Court strata II and I and LN West Court, is made in the previous chapter, where a separate stylistic phase emerges in the second part of the LN West Court (Ch. III, 3.3.2). In this chapter an effort is made to reconstruct the LN Knossos pottery sequence.

2. Reconstruction of the LN Knossos sequence

2.1. Putting the evidence together

The seven units of LN Knossos evidence go as follows: 1. Central Court stratum II, 2. Central Court stratum I, 3. Throne Room System, 4. Central Court stratum a, 5. Central Court stratum b, 6. LN West Court soundings AA/ BB, EE and FF and 7. LN West Court sounding FF. Not all of them are published at the same level of detail (App. II, A). Their stratigraphic co-relation has already been established (Ch. II, 2.1) and, according to it, Central Court stratum II is clearly stratified under stratum I. Central Court stratum I, the Throne Room System LN deposits and stratum a belong to the same stratigraphic horizon, while the position of stratum b within the Central Court sequence cannot be clearly fixed. Finally, there is no direct stratigraphic link between Central and LN West Court soundings (AA/ BB, EE and FF). However, there is indirect stratigraphic evidence that the LN West Court deposits preserve a bigger part of the LN Knossos sequence than Central Court. LN Knossos pottery evidence comes to confirm the stratigraphic sequence (Ch. III, 3, 3.1-3.3). Central Court stratum II corresponds to a MN/ LN transitional phase,

Central Court stratum I, the LN Throne Room System deposits and the earlier part of LN West Court to a fully developed LN phase and the later part of LN West Court, including sounding FF, to a later LN phase.

It is obvious that Central Court strata a and b are not included in this reconstruction of the LN Knossos pottery sequence. The reason is that their evidence does not add new information on typology. Nevertheless, the popularity of incised hatched bands in stratum a indicates that it must be placed in the Central Court stratum I horizon, to which also belongs stratigraphically (Vol. II, App. II, C4).

2.1.1. Central Court stratum b

Central Court stratum b evidence is not at all valid, because its pottery was mixed with that of stratum a (Vol. II, App. II, C4, p. 48). The only shape reported from stratum b, in the excavation daybooks, is pedestalled chalices with pattern burnished decoration. This shape and type of decoration are typical of EM I Pyrgos ware, but occur in LN Knossos too (Vol. II, App. II, C5). On the other hand, a pedestalled chalice and a carinated bowl with collar rim and bridge-spout, attributed to this stratum by A. Evans (1928, figs. 4, 3x), are dated in the EM I by Warren (1965, 30, note 11; 1969, 109, note 1). The point is, that stratum b pottery does not come from a secure stratigraphic context (Vol. II, App. II, B5) and the sporadic presence of EM I pottery in it, would not be surprising given the extent of Minoan levelling and mixing of top deposits in the Central Court (Ch. II, 2.2).

2.1.2. LN West Court and sounding FF

Due to the incomplete state of publication of LN West Court soundings AA/ BB, EE and FF, there are certain obscure points about this part of the LN Knossos sequence. Nevertheless, its overall validity and accuracy is well documented.

The earlier phase of LN West Court typologically belongs to Central Court stratum I, since it shares with it all these features, which define the bulk of stratum I typology. These are: predominance of red wiped/ scored coarse ware, very low popularity of rippled burnished decoration, predominance of incised hatched bands and ladder patterns and dense style in syntax. The only point of difference is that the earlier LN West Court phase includes a number of new types of small popularity not known from stratum I (Ch. III, 3.3.1). This discrepancy may derive from the fact that stratum I is not fully published. Another explanation might be that certain of these new types belong to the later LN phase of West Court (Ch. III, 3.3.2).

The presence of the later LN West Court phase had not been realised up to now. It was thought that traces of it came only from the top levels of sounding FF, where there was a high incidence of FN Phaistian-like traits (Evans J.D., 1971, 113-114). The existence of this phase, however, is clearly indicated in another publication (Evans J.D., 1973, 146), since there are mentioned changes in decoration, such as the abandonment of ripple burnished decoration and predominance of open style in syntax (seam patterns), from sounding EE (Ch. III, 3.3.2). Moreover, the West Court Pottery Books (Evans J.D., 1969-70) come to further clarify the identity of this phase and to confirm that certain of the Phaistian-like traits, attributed to sounding FF, are present in other soundings too (App. II, C7). In this way, the later LN phase of West Court is established and sounding FF becomes only a part of it. At any rate, this phase represents the final stage of LN Knossos, as it was expected from the stratigraphic evidence, since the LN strata of West Court were preserved at a higher level than those of the Central Court.

3. The LN Knossos sequence

The LN period at Knossos is divided into three phases, which can be summarised in the following way:

MN/ LN transitional phase	Central Court stratum II
LN phase	Central Court stratum I
	LN Throne Room System
	Central Court stratum a
	Earlier part of LN West Court
LN final phase	Later part of LN West Court
	West Court sounding FF

Finally, to simplify it, the following classification is proposed:

LN I Knossos:	MN/ LN transitional phase
LN II Knossos:	LN phase
FN Knossos:	LN final phase

The use of the term "phases" instead of "separate periods" can be justified in the following way. As it is established in the previous chapter, each neolithic period (EN I to LN) has its own quantitative composition and stylistic attributes. On the basis of these criteria, the three LN phases do not correspond to different periods, since they share the same staple types and are all characterised by the predominance of unburnished coarse ware, which in the last two phases is wiped/ scored (Ch. III, 4). At this point, one could argue that the last phase (FN Knossos) constitutes a separate period, because a major quantitative change takes place in it. More precisely, jabbed decoration becomes more popular than the standard LN I and LN II incised decoration (Ch. III, 3.3.2). At closer look, however, becomes evident that the typology of FN Knossos totally overlaps with the LN II phase and changes are confined in the area of decoration. For this reason, it is more accurate to consider FN Knossos as a stylistic phase than a separate period.

CHAPTER V

LN KNOSSOS POTTERY TECHNOLOGY

1. Introduction

Technology is an aspect of LN Knossos pottery, which interacts with typology, especially in the area of ware categories and surface treatment. This chapter is devoted to the description of LN pot making and firing techniques and their interaction with typology in LN I, LN II and FN Knoosos (Ch. IV, 3).

LN pottery technology has not been studied in detail. There is a small number of general studies on Cretan and Knossos neolithic pottery technology (Noll, 1982; Jones, 1986), which are used in this context, but, as main source of information, serve observations made by Furness (1953), J.D. Evans (1964) and by me on pottery from J.D. Evans' excavations in the Central and West Court. All these observations though valid, lack the precision and documentation a thorough scientific clay and pottery technology analysis could have provided. For this reason, our presentation is neither detailed nor complete.

2. Description of pottery

2.1. Clay, biscuit and ware categories

LN Knossos pottery and that of all earlier periods is handmade. The clay source was probably in the immediate vicinity of the settlement. Biscuit texture does not change during the course of the Neolithic and is the same for coarse and fine pottery. It is not always evenly levigated and sometimes quite large fragments of gravel or grit are visible in the break. The commonest tempering material is lime from gypsum, which was powdered fine and appears as small white flakes. No sand nor organic materials were identified among the tempering substances. Fine ware is better levigated, has somewhat

thinner walls (0.80 cm. to 0.50 cm.) than coarse ware (1.20 cm. to 0.80 cm.) and is more carefully burnished (Furness, 1953, 103).

Distinction between coarse and fine ware is mainly based on the presence/ absence of burnish on coarse ware. By LN I (stratum II), the great majority of coarse ware is unburnished and, thus, distinction becomes much clearer (Vol. II, App. II, C1, p. 39). LN coarse and fine ware biscuit is better levigated than before and does not include large fragments of tempering material. In the earlier LN phase of West Court (LN II Knossos), a small group of fine black burnished and polished ware (Vol. II, App. II, Table 10) is very well levigated and has exceptionally thin walls (up to 0.30 cm.).

2.2. Firing techniques

No evidence of pottery ovens was found and all relevant features indicate the use of pit firing throughout the Knossos neolithic sequence. However, firing techniques show a constant improvement through time. In EN I, irregular and low firing resulted in core colour variations, changing gradually from black or grey to red or buff, and a wide range of surface colours. Sometimes insufficient firing produced light surfaces with a dark core. During EN II and MN, there is evidence of harder and more regular firing with less colour variations at cross-section and surface. Surface colour variations are more apparent on coarse ware and less on fine ware, which is evenly coloured, because of careful burnish.

In LN, right from stratum II (LN I Knossos) onwards, the effects of firing improvements are strongly felt. Firing is hard and regular, is done at a higher temperature and in better controlled firing conditions than before and produces a brick red core right through and more uniform surface colouring (Evans A., 1921, 38; Furness, 1953, 128; Evans J.D., 1964, 225). The achievement of controlled pit firing and hence surface colour uniformity, is done by arranging pots in certain places in the fire, but it is not possible to control the atmosphere after firing has begun and minor surface colour variations

should be expected (Rye, 1981, 98-99). The predominant surface colour on LN unburnished coarse ware is buff and on burnished fine ware monochrome brown or deep red. A large amount of LN coarse ware crumbled when coming to light. This may not be due to faults in pot making or firing, but to post-depositional factors. LN deposits lay close to the surface and were exposed to water seepage from above (Evans J.D., 1964, 225).

2.3. Surface treatments

The staple type of surface treatment of Knossos neolithic pottery is burnish. During the course of LN, this technique is mainly applied on fine ware. It consists of rubbing and polishing the whole of the pot surface with a smooth-surfaced, wet instrument or tool. The finer and thicker the coating of clay particles, thus brought to the surface, the more brilliantly polished the final product. In cases of thorough polish, there appears to be a slip applied on the vase, but this is not a real application and is sometimes called mechanical slip. Initially it was thought that burnish took place after firing, but recent research has shown that it was done before firing and after the pot had been left to dry (Noll, 1982, 174).

LN coarse ware is occasionally scribble burnished by quick movements of the burnishing tool, but its great majority is buff unburnished. Another type of LN coarse ware surface treatment is red wiping/ scoring, which is very popular in LN II Knossos (Central Court stratum I and earlier LN West Court) and FN Knossos (later LN West Court) (Vol. II, App. II, C2, p. 43, Table 10). It consists of wiping the dry unburnished pot surface before firing with a wet cloth or bunch of grass, leaving a rough striated surface. Finally, other less popular types of coarse ware are grey smoothed and red or white washed pottery (Vol. II, App. II, Table 10). Grey ware is smoothed and unburnished, rendered grey by even firing. Washed ware bears an almost transparent thin red/ white coating of pigment, added before firing, on buff unburnished surfaces (Vol. II, Pl. 5B).

2.4. Decoration

LN Knossos types of decoration (Vol. II, App. II, Tables 4, 6, 11) can be divided in two groups, those which are forms of surface treatment and those which are irrelevant to surface treatment. The first group includes: pattern burnishing, red scribble burnishing and red/ black mottled decoration. In all these cases, the final decorative effect is achieved during or by firing. To the second group belong: ripple burnishing, plastic decoration, incised/ grooved decoration, pointillé/ impressed/ jabbed decoration, channelling/ fluting/ ribbing and white/ red incrustation. All these types are applied before firing on a dry pot surface, with the exception of incrustation, which is applied after firing.

Red scribble burnishing is occasionally used on lightly burnished necked jars and acquires a red colour during firing (Vol. II, Pl. 10B: top left). **Pattern burnished decoration** also consists of patterns drawn by the burnishing tool on an already burnished surface (Vol. II, Pl. 10A). **Red/ black mottling** is probably intentionally produced using controlled firing on fine burnished ware. Therefore, the last type of decoration is a specific form of uveven but controlled firing and not a surface treatment as such.

Incised/ grooved decoration is done by a pointed tool. Judging from the regular, wide and shallow grooves on grooved ware (Vol. II, Pls. 9A-9B), this form of decoration could have been done by one piece of a reed cut vertically in two. Incised decoration is done by an instrument with a narrow pointed end (Vol. II, Pl. 7A). In LN II and FN, incised hatched bands and ladder patterns are occasionally scratched after firing or stamped on the pot surface by a stone or wooden cylinder on which this pattern was engraved (Vol. II, Pl. 8A: top row).

Pointillé/ impressed and jabbed decoration are also performed by a pointed tool. Given the variety of shapes of LN II and FN impressed/ jabbed dots (circular, oval, triangular, trapezoidal and

finger nail), there should have been used a tool-kit of pointed instruments with similarly shaped ends (Vol. II, Pl. 6A). Or else, the same tool was held in such a way as to produce different dot shapes each time. Jabbed decoration gives the impression of having been done by quicker movements than pointillé and impressed.

Ripple burnishing consists of very fine, wavy, vertical ripples allover the burnished surface. **Channelling/ fluting and ribbing** was probably done by the same tool as rippling, moving in the horizontal sense and producing narrow and deep furrows on the pot surface. This decoration takes its name, depending on the fineness of the end product (Vol. II, App. II, C6, p. 58). Finally, **white/ red incrustation** is a form of paint. It consists of white pigment or red ochre dilution applied as a thin crust of very fine granular texture on the pot surface after firing and, for this reason, leaves a non-permanent, sometimes friable and thin layer (Jones, 1986, 761).

3. Pottery technology and typology interaction

In the LN period, the effects of harder firing and higher skills in controlling colouring through firing determine the appearance of coarse and fine pottery. Moreover, they initiate the experimentation with new decorative techniques, which are directly related with firing control.

3.1. Surface treatment

The gradual abandonment of burnish on coarse ware, during the course of Neolithic, reaches its peak in the LN period, when this type of ware is buff unburnished or red wiped/ scored. This process has been interpreted as a result of the achievement of harder and better firing through time (Furness, 1953, 128; Evans J.D., 1964, 174). The argument goes as follows: burnish creates an external coating by bringing to surface fine clay particles (Noll, 1982, 174), which decreases the pot porosity and, in consequence, strengthens its impermeability. Improvements in firing have exactly the same results

by producing a hard and compact biscuit, therefore, burnish loses its purpose. This interpretation is supported by the existing evidence as a whole, but, as J.D. Evans (1964, 194) observes, even in EN I, when firing was not good, there was a small amount of unburnished or scribble burnished coarse ware. Moreover, the use of burnish on fine ware in all periods is not explained by this interpetation alone.

Another less obvious purpose must be the achievement of surface colour uniformity, which could not always be done by firing alone in the earlier part of the Knossos sequence. Burnished surfaces, due to their fine texture, receive a more even and bright colour through firing, which masks, to a certain extent, these variations. This property of burnish has been scientifically proven by Noll (1982, 174). In the LN/ FN period, when firing was even right through the core, and produced more or less uniformly buff surfaces, the last purpose of burnish became redundant for coarse ware. Nevertheless, burnish was kept on fine ware for decorative reasons and possibly to cover minor surface colour variations, expected in pit firing.

A monochrome burnished vase not only is aesthetically more beautiful, but also makes any additional decoration, such as incised or pointillé patterns and red/ white incrustation stand out. Incised and pointillé decoration are present in all periods at Knossos and patterns are often filled with white paste to create colour contrast against the dark burnished background (Vol. II, Pls. 6B-7A). Incrustation, which is introduced in FN phase of Knossos, is also mainly used on finely black burnished vases (Vol. II, App. II, C6, p. 58).

Finally, more even firing and at a higher temperature than before has an effect on the quality of burnish itself. From LN I onwards, fine burnished and ripple burnished vases are not anymore brightly polished and have a somewhat fainter appearance than their MN equivalents. In the case of thin-walled and incised ware, one even gets the impression that it is the end product of experimentation with the use and purpose of burnish on fine ware, since this group

of pottery is similar in clay texture, wall thickness and decoration to fine pottery, but is left unburnished (Vol. II, App. II, C1, p. 39, C2, p. 43, Table 10).

3.2. Decoration

The implications of better firing and surface colour controlling conditions are felt in the area of decoration too. Experimentation with new techniques starts in Knossos LN I (Central Court stratum II) with the appearance of pattern burnished decoration and goes on in LN II Knossos with the introduction of red scribble burnished and red/ black mottled decoration (Vol. II, App. II, Table 4, 11). All these types are based on creating colour contrast by appropriate surface treatment and controlled firing (2.4).

4. Conclusions

A gradual process of improvements in the area of clay levigation and firing technology can be followed through the Knossos neolithic sequence. Its full effects are felt in the LN period and are rather a development than a break from the earlier part of the sequence (Furness, 1953, 128). These improvements lead to the abandonment of burnish on coarse ware. Burnish is kept for fine ware only, as the means of achieving surface colour uniformity. Finally, better firing leads to experimentation with new decorative techniques, based on colour contrast and achieved through firing after the appropriate surface treatment. The only exception is incrusted decoration, which is applied after firing.

CHAPTER VI

LN KNOSSOS POTTERY TYPOLOGY

1. Introduction

In the three previous chapters (III-V) all quantitative and stylistic changes, which took place in LN Knossos, are described (Ch. III, 3), the rate of change within the LN period is evaluated and a three-phase LN sequence is established (Ch. IV, 3). The LN pot making technology and its interaction with typology is also discussed (Ch. V). In this chapter, an effort is made to evaluate all these data and to present an interpretation of the evolution of the LN typology by tracing the origin of the LN new types.

2. The process of LN Knossos evolution

Each LN phase is characterised by changes in the frequency of occurrence of certain decoration types and in the style of decoration. At the same time, a number of new types is introduced in each phase. These changes follow a gradual process of internal evolution through the three LN phases (LN I, LN II and FN Knossos). Factors that generate change and the appearance of quite a few of the new types have to do with the implications of improvements in pot firing, a general tendency for mass production and the acquisition of a new fashion in decoration syntax.

2.1. LN I Knossos

LN I (stratum II) is characterised by the predominance of buff unburnished ware, the partial retreat of ripple burnished decoration and the popularity of incised decoration. At the same time, rounded bowls and bowls with straight profile prevail in popularity over profiled carinated bowls, which were very common in MN (Ch. III, 3.1). Finally, a group of new types of small popularity is introduced in this phase (Ch. III, 3.1.3).

2.1.1. Ware and typology interaction

A major change in LN I is the abandonment of burnish on coarse ware, which is related to improvements in firing techniques (Ch. V, 3.1). This change makes distinction between coarse and fine burnished ware much clearer. It also has implications for other domains of typology. Flap/ tab and wishbone handles have a different morphology according to ware category (Vol. II, App. II, C2, p. 38; fig. 6: 10-14). Pointillé and incised decoration take the rougher form of pitting and grooving on coarse ware (Vol. II, App. II, Table 4). Finally, signs of experimentation with the purpose of burnish on fine ware appear in the form of thin-walled buff unburnished and incised pottery (Ch. V, 3.1).

2.1.2. Ripple burnished decoration

The reduction of ripple burnished decoration has implications for other domains of typology. Profiled carinated bowls of type 3b, which were almost exclusively associated with this decoration, follow the same trend of decline in popularity. Long-pronged wishbone handles, which were often ripple burnished, also have a small frequency of occurrence in LN I (Vol. II, App. II, Table 3). This type of handle was mainly associated with ladles and the drop in its popularity may be related with the appearance of long solid handles on ladles/ spoons (Vol. II, fig. 5: 6 and 7-8). The overall amount of decorated pottery drops after the reduction of ripple burnished pottery and incised decoration becomes the most popular (Ch. III, 3.1.1). The decrease in popularity of ripple burnished decoration has to do with the inherent tendency of Knossos pottery for quantitative changes (Ch. III, 2.1). It may also have been influenced by the achievement of harder firing in LN, which somewhat changed the appearance of ripple burnished pottery, giving it a fainter look, and hence diminishing the decorative effect (Ch. V, 3.1).

2.1.3. Decoration

Incised decoration on fine bowls forms the backbone of decorated pottery and is determined by quantitative and stylistic changes. Its great majority is characterised by the same pattern repertoire (hatched bands and triangles), careful execution and dense style in syntax, which were typical of MN Knossos (Vol. II, fig. 7: 15-18). At the same time, steps are taken towards discontinuation of the traditional dense syntax by the introduction, in small numbers, of vertical incised seam patterns (Vol. II, fig. 7: 20-21), of horizontal incised single rows of short strokes and of horizontal pointillé/ impressed single or double lines (Vol. II, fig. 7: 19 and 9-10). Open style also characterises channelling and pattern burnishing, which are introduced in this phase (Vol. II, App. II, Table 4).

2.1.4. Signs of mass production

The appearance of open style reflects the development of a new fashion in decoration syntax, although a small group of EN II incised vertical patterns was characterised by the same syntax (Ch. III, 2.2). This new style may derive from a new stylistic taste for accentuating the vertical or horizontal axis of the vase. Nevertheless, it may also be related with a tendency for mass production, since the time consumed for the execution of incised or pointillé/ impressed decoration in dense style is longer than that required for open style. The same tendency for mass production could be a factor for the decrease of ripple burnished decoration, which requires careful work and covers the whole of the vase, as opposed to channelling, which is a crude form of rippling and is confined to the upper part of the vase (Ch. V, 2.4). Moreover, pattern burnishing is quicker to produce than the traditional incised and pointillé decoration, since it is governed by open style in syntax and is done by quick movements of the burnishing tool. The appearance of this decoration is directly related to improvements in firing control, which made possible the achievement of colour effects (Ch. V, 3.2).

2.1.5. New types

The group of LN I new types includes: spherical/ squat bowls with collar rim, high-necked jars, horn-like lugs, long solid handles on ladles/ spoons, red/ wiped scored ware, buff unburnished, thin-walled and incised ware, pitting, grooving, channelled decoration, pattern burnished decoration, ladder pattern, rows of short strokes and seam patterns (Ch. III, 3.1.3).

Spherical/ squat bowls with collar rim are a new variation of bowl and **high-necked jars** is a form of necked jar (Vol. II, App. II, Table 1; fig. 4: 38-39 and 37). **Horn-like lugs** were present in the EN I (Vol. II, App. I, Table 4) and re-appear after a long interval in this phase (Vol. II, App. II, Table 3). **Long solid handles on ladles/ spoons** may derive from the reduction of ripple burnishing (2.1.2). **Wiping/ scoring** is a specialised type of surface treatment for unburnished coarse ware. **Buff thin-walled unburnished incised ware** is related to improvements in firing techniques and the abandonment of burnish (2.1.1). **Grooving and pitting** are rough forms of incised and pointillé/ impressed decoration used on coarse ware. **Channelling and pattern burnished decoration** have to do with the introduction of open style and a tendency for mass production (2.1.4). **Ladder pattern** is a narrower form of hatched band, vertically arranged (Vol. II, fig. 7: 18) and **rows of short strokes** are hatched bands without bordering lines (Vol. II, fig. 7: 19). Finally, **seam patterns** are a combination of simple incised and pointillé lines (Vol. II, fig. 7: 20-21).

2.2. LN II Knossos

In the LN II phase the process of elimination of all MN hallmarks that started in LN I is completed (Ch. III, 3.2.1, 3.3.1). Ripple burnished decoration and all types related to it have a very low popularity, while long-pronged wishbone handles drop out of fashion. Moreover, the overall amount of decorated sherds is further reduced, as a result of the retreat of ripple burnished decoration. Finally, quite a number of new types enters the assemblage.

2.2.1. Ware and typology interaction

Nothing really new appears in this area of typology. Coarse ware is still unburnished, but wiping/ scoring on it, which appeared in LN I, becomes very popular. This increase in popularity is consistent with the process of gradual quantitative changes inherent in the Knossian assemblage and does not seem to have anything to do with improvements in firing techniques. The tendency of abandoning burnish on fine ware is here reinforced. Not only thin-walled unburnished and incised ware becomes somewhat more popular, but fine burnished ware has a duller appearance, because of harder firing. On the other hand, there is a tendency for surface colour variety, as the presence in LN West Court of small quantities of grey smoothed ware and fine beige/ orange and bright red burnished wares indicates (Ch. III, 3.3.1: new types; Vol. II, App. II, Table 10). All this is made possible through better controlled firing conditions (Ch. V, 2.3).

2.2.2. Decoration

In LN II, incised decoration and dense style in syntax are still very popular, since hatched bands and ladder patterns are predominant However, this type of decoration starts looking fainter, due to the duller appearance of fine burnished ware. Moreover, execution of hatched bands and ladder patterns is mean. Sometimes, these patterns are even scratched after firing and done in smaller scale, diminishing the overall decorative effect. On the other hand, open style in syntax of seam patterns, single rows of short strokes and single or double pointillé/ impressed lines is kept at the same low level of popularity as in LN I, but two new patterns, isolated pairs of dots and plastic rope pattern, are introduced in this phase and are arranged in open style (Vol. II, figs. 8: 14, 12: 9). Impressed decoration is enriched with new varieties in the shape of dots and patterns are very simple and consist of parallel lines (Vol. II, figs. 8: 11-13, 12: 13-15). All other types of decoration (i.e. channelling and pattern burnished decoration), known from LN I,

remain the same and two more, red scribble burnished and red/ black mottled decoration, are introduced (Vol. II, App. II, Table 11).

Finally, there is a tendency for unification and further elimination of the pattern repertoire. Hatched bands, which are so characteristic of incised decoration, are also used in pattern burnished decoration (Vol. II, App. II, C6, p. 58), while the rope pattern is the plastic version of the same pattern, since it consists of a narrow plastic band incised on the top surface (Vol. II, fig. 12: 9). On the other hand, a totally new incised pattern, chevron, is introduced. This pattern, however, seems to be accidentally formed and appears only sporadically among dense parallel lines on buff unburnished thin-walled ware (Vol. II, Pl. 9A: bottom left).

2.2.3. Signs of mass production

Efforts for mass production are more strongly manifested in this phase. Open style is somewhat more popular in the syntax of incised and pointillé decoration. Experimentation with quicker types of execution is manifested through the occasional use of a cylinder, with hatched bands or ladder pattern engraved on it, to stamp these patterns on vases (Vol. II, Pl. 8A: top row). The use of a cylinder may indicate a further attempt for mass production. Two new types of decorative surface treatment, red scribble burnishing and red/ black mottled decoration, are made possible through improvements in firing and may derive from a new taste for colour contrast effects (Ch. V, 3.2). They are certainly less time consuming to produce than incised and pointillé/ impressed decoration. Interestingly enough, there is a single example of a red/ black mottled sherd with ripple burnished surface, which indicates the combination of new with traditional decorative techniques (Vol. II, App. II, C6, p. 58).

2.2.4. New types

The new LN II Knossos types include those of Central Court stratum I and of the earlier part of LN West Court (Ch. III, 3.2.3 and 3.3.1). Most of them can be traced back to older prototypes and some more belong to totally new EM I-like types. To the first group belong:

Shapes/ rims/ handles/lugs/ ears	Vol. II
shallow bowls	fig. 10: 4-5
shallow carinated bowls	fig. 10: 6-7
cylindrical cups	fig. 8: 1
plastic wide bands on bowl rims	fig. 8: 7
slashed rims	fig. 14: 1
ribbon handles with a prong	fig. 11: 8
false lugs	fig. 11: 10
square lugs	fig. 8: 2
unperforated lugs	fig. 8: 3
cylindrical handles	fig. 11: 9
circular ears on bowl rims	fig. 11: 22
Wares	
coarse grey smoothed ware	
red/ white washed coarse ware	
fine beige orange and bright red burnished ware	
Decoration	
red scribble burnished decoration	Pl. 10B: top left
red/ black mottled decoration	
plastic rope pattern	fig. 12: 9

Shallow bowls and shallow carinated bowls (Vol. II, fig. 10: 4-7) are shallower versions of rounded and carinated bowls (Vol. II, App. II, Tables 5, 7). **Cylindrical cups** (Vol. II, fig. 8: 1) make rare appearances and are known in miniatute size from LN I (Vol. II, fig. 5: 16). **Plastic rim bands** are simple typological traits. **Slashed rims**

(Vol. II, fig. 14: 1) on coarse bowls are a rougher form of LN I dentated rims on similar bowls (Vol. II, App. II, C1, p. 40). **Ribbon handles with a prong at the top** (Vol. II, fig. 11: 8) may derive from a new tendency of applying decoration on handles (Vol. II, fig. 11: 6-7) or may belong to a simplified form of long-pronged wishbone handles (Vol. II, fig. 5: 6), which were present in EN I to LN I Knossos (Vol. II, App. I, Table 4, App. II, Table 3), but are absent from the LN II (Vol. II, App. II, Table 9). **False lugs** (Vol. II, fig. 11: 10) are a vestigial form of the LN I pellet lugs (Vol. II, App. II, Table 3). **Square lugs, unperforated lugs and cylindrical handles** (Vol. II, figs. 8: 2-3, 11: 9) are varieties of tubular lugs. **Circular ears** (Vol. II, fig. 11: 22) are known from the MN period too (Vol. II, App. I, Table 4). **Red/ white wash on coarse ware** is a new type of surface treatment, but is too simple to be really significant. **Grey smoothed, beige/ orange and bright red burnished ware** are related to improvements in firing control (2.2.1). The same goes for **red scribble burnished and red/ black mottled decoration** (2.2.2). Finally, **rope pattern** is a form of incised hatched band in plastic decoration (2.2.2).

To the group of totally new types belong the following ones:

EM I-like types	Vol. II
rectangular trays	fig. 10: 13
fruitstands with open work on the foot	fig. 10: 16-17
chalices	fig. 10: 15
"rhyton"	fig. 10: 18
"strainers"	
horn-like lugs	fig. 11: 17
vertically perforated double lugs	fig. 11: 16
zoomorphic/ anthropomorphic lugs	fig. 11: 19-21
V-shaped spouts	fig. 12: 3
ring bases	fig. 12: 4
short hollow feet	fig. 12: 7
oval-sectioned solid feet	fig. 12: 8
grooved/ incised chevrons	fig. 9: 3-4

Among the totally new LN II, there are four, which are known from the EN II period. These are: fruitstands, chalices, horn-like lugs and ring bases (Vol II, App. I, Tables 3, 4, p. 19). Horn-like lugs are also present in the LN I phase (2.2.4), but they are not illustrated and one cannot tell whether they are similar to the LN II (Vol. II, App. II, C1, p. 38).

2.3. FN Knossos

FN Knossos, which includes the later part of LN West Court and sounding FF (Ch. III, 3.3.2), differs from LN II only in the area of decoration. Impressed/ jabbed decoration and open style in syntax take over in popularity from incised decoration and dense style. Ripple burnished decoration and all types associated with it drop out of fashion.

2.3.1. Decoration

A major change from LN II to FN takes place in the syntax of decoration by the predominance of open style. Incised hatched bands and ladder pattern, which are always densely arranged, lose their popularity. On the contrary, vertical seam patterns become common and are enriched with three new variations (Vol. II, fig. 13: 6-11). Impressed/ jabbed decoration is characterised by simple patterns of horizontal parallel lines around the biggest body diameter (Vol. II, fig. 12: 13-15). All other types of decoration, plastic decoration (rope pattern), channelling, pattern burnished decoration, red scribble burnished decoration, red/ black mottled decoration remain the same as in LN II. Finally, red/ white incrustation is introduced in small numbers (Vol. II, App. II, Table 11).

2.3.2. Signs of mass production

Efforts for mass production continue along the same lines as in the previous LN phases (2.1.4, 2.2.3), but are more intensified. Open style is fully established. Ripple burnished decoration, which was

time consuming to produce, is totally abandoned. Experimentation with decorative types of surface treatment (pattern and red scribble burnishing and red/ black mottled decoration) continues at the same level as in LN II Knossos. Moreover, jabbing is a new and quicker to execute form of dotted decoration and is often horizontally arranged (Ch. V, 2.4). Fluting and ribbing are also introduced and are finer forms of channelling (Vol. II, App. II, C6, p. 58). These types of decoration are a less elaborate form of ripple burnished decoration, but still quite fine, and certainly quicker to produce than it (Ch. V, 2.4). Finally, a totally new decorative technique, red/ white incrustation, appears in low popularity and is quicker to produce, since it is a form of painting incrusted after firing on the pot surface (Ch. 2.4).

2.3.3. New concepts in decoration

Jabbed and incised decoration, which form the bulk of decorated pottery in this phase, are characterised by simplification of the pattern repertoire and a tendency to accentuate the vertical (seam patterns) or the horizontal (groups of jabbed parallel lines) axis of the vase. There also is an obvious effort for the creation of colour contrast, as the use of red scribble and pattern burnishing, red/ black mottled decoration and incrustation indicates. The concept of colour contrast is not a new one for Neolithic Knossos. Right from EN I, incised and pointillé/ impressed decoration are often filled with white and rarely with red paste to make patterns stand out against the dark burnished background (Vol. II, App. I, C, pp. 21-23). White/ red incrustation, in particular, seems to be a close imitation of this practice, since similarly coloured patterns are incrusted on dark burnished background (Vol. II, App. II, C6, p. 58; Evans A., 1921, 38). The difference is that the traditional technique of filling patterns with paste is more time consuming to perform than the new one. What is really new in the LN/ FN period in general, is experimentation with new decorative surface treatment techniques, based on better controlled firing. Moreover, the introduction of incrustation in this phase (FN Knossos) indicates an attempt to

disassociate decoration from firing conditions, since this decoration is applied after firing. All these efforts, though, are kept well on the side and they never become popular (Vol. II, App. II, Table 11).

2.3.4. New types

FN Knossos (later LN West Court and sounding FF) includes all LN II types (2.2.4) and some more (Ch. III, 3.3.2). All of them are listed below.

	Vol. II
bowls with high/ angular carination	fig. 14: 2
jugs with V-shaped spouts	fig. 14: 3-4
jabbing	fig. 12: 13-14
jabbed hatched bands and zig-zags	fig. 14: 7-6
three new seam patterns	fig. 13: 7-9
incised/ channelled chevrons	fig. 14: 5, 8
fluting/ ribbing	
red/ white incrustation	

Jabbing, fluting/ ribbing and seam patterns are discussed in previous sections (2.3.1, 2.3.2) and can be traced back to older types. **Bowls with high/ angular carination** (Vol. II, fig. 14: 2) are a new form of carinated bowl (Vol. II, App. I, Table 2, App. II, Tables 1, 5, 7). All other types have no direct typological links with the Knossian assemblage and are pretty rare.

Jugs with V-shaped spout (Vol. II, fig. 14: 3-4) are a totally new shape and have only two occurrences, from sounding FF (Vol. II, App. II, C7, p. 59). However, both of them bear typically neolithic surface treatment and decoration. The first one is black polished and bears a single row of incised short strokes, which is a pattern already known from LN I Knossos (2.1.5; Vol. II, fig. 7: 19) and the second one is red polished. **Hatched bands** (Vol. II, fig. 14: 7) are characteristic of LN I and LN II dense incised decoration, but, in this phase, appear in jabbed technique and are arranged in open

style. **Jabbed zig-zags** (Vol. II, fig. 14: 6) are a new pattern arranged in open style, although pointillé and incised zig-zags were very popular in EN I and EN II Knossos (Vol. II, App. I, C, pp. 22-23). **Incised/ channelled chevrons** is a pattern known from the previous phase, where it appears randomly among dense incised/ grooved decoration (Vol. II, fig. 9: 4), but, in this phase, is promoted to an independent decorative unit (Vol. II, fig. 14: 5, 8). Finally, **red/ white incrustation** is a new decorative technique, applied after firing, but looks like an imitation of older types of decoration (2.3.3).

3. General Conclusions

The LN (LN I, LN II, FN) Knossos typology follows an internal and gradual process of evolution. This process is based on the inherent tendency of the Knossos assemblage for quantitative and stylistic changes and on the interaction of improvements in firing techniques and typology. The combination of these factors produced a chain reaction, which led to efforts for mass production and experimentation with new and quicker to perform types of decoration. It also brought to surface new concepts in the syntax of decoration (open style) and a taste for colour contrast. All these developments are more strongly felt in the last phase (FN Knossos). Finally, most of the new types, introduced in LN Knossos, can be explained within the context of internal evolution, but there are certain LN II and FN new types without obvious neolithic origins.

CHAPTER VII

FN PHAISTOS AND LN KNOSSOS POTTERY TYPOLOGY

1. Introduction

FN Phaistos is the only other Cretan site, besides Knossos, where an extensive neolithic settlement with a rich pottery assemblage was excavated (Vol. II, App. III, A). A detailed comparison between them has never been attempted, because of the assumed lack of a FN phase from Knossos. However, as it emerges in this volume (Ch. IV, 3), there is such a phase from the West Court of Knossos (Ch. IV, 2.1.2). FN Knossos overlaps to a great extent with LN II typology and differs from it only in the area of decoration (Ch. VI, 3.3). For this reason, comparisons are automatically made between LN II/ FN Knossos and FN Phaistos, in all areas of typology but decoration. One should also keep in mind the difference in methodology and depth of analysis of data from the two sites. On one hand, FN Phaistos typology is based on a full detailed publication (Vagnetti, 1972) and, on the other hand, FN Knossos is mainly known from unpublished sources. This situation causes certain discrepancies in the comparative study of shapes and ware categories.

2. Shapes

Bowls are by far the most popular shape with necked jars coming well behind at both sites. FN Phaistos appears to have a richer than LN II/ FN Knossos shape repertoire (Vol. II, Apps. III, Table 4, II, Table 7). Under closer examination, it becomes obvious that this impression is due to the more detailed character of Phaistos typology, which is grouped into seven pottery classes (A-G). Classes A and B belong to coarse ware, classes C, D and E to fine ware and classes F and G to medium ware. Knossos shapes are presented together irrelevant of ware category. Despite all this, co-ordination between Phaistos and Knossos typology is not difficult, because they share the same basic types.

Another aspect of typology, where the two sites differ, is that of specific quantitative data on the frequency of occurrence of each shape. Here the situation is the reverse. Such data exist for all basic Knossos shapes, while there is only general information about the popularity of each Phaistos class. Coarse class A and fine class C are the most popular (Vol. II, App. III, C, p. 67).

2.1. Bowls/ Jars

Phaistos class A **open conical bowls** (Vol. II, fig. 15: 1), which have only one occurrence, have a single parallel from Central Court stratum a (LN II Knossos) (Vol. II, App. II, C4, p. 48).

Phaistos class F **open rounded bowls with offset rim** and class C **rounded bowls with offset rim** (Vol. II, fig. 17: 19-27) find close parallels in bowls with similar rim of type 4 from LN II/ FN Knossos (Vol. II, fig. 4: 29-30). At Knossos, these bowls appear in coarse and fine ware, but are more common in the latter. The popularity of this shape is limited at both sites.

Phaistos **rounded bowls**, which appear in coarse classes A and B, medium class F and fine classes C and D (Vol. II, figs. 15: 2-4, 12-13, 17: 8-15), find parallels in coarse and fine rounded bowls of type 1 from LN II/ FN Knossos (Vol. II, fig. 4: 1-11). This type of bowl has a big popularity at both sites.

Phaistos coarse class A and fine class C **deep bowls with splayed profile** (Vol. II, fig. 15: 8-9) find close parallels in coarse and fine bowls with similar profile of type 2 from LN II/ FN Knossos (Vol. II, fig. 4: 13-14). Their popularity is limited at both sites.

Phaistos coarse class A **bowls with straight profile** (Vol. II, fig. 15: 5-7) find close parallels in coarse bowls with similar profile of type 2 from LN II/ FN Knossos (Vol. II, fig. 4: 12, 15-20). This shape is very popular at Knossos and Phaistos.

Phaistos fine class C and D **shallow bowls** (Vol. II, fig. 17: 1-4) find parallels in similar fine bowls from LN II/ FN Knossos (Vol. II, fig. 10: 4-5). This shape is quite popular at both sites.

Phaistos fine class C **shallow carinated bowls** (Vol. II, fig. 17: 5-7) find exact parallels in similar fine bowls from LN II/ FN Knossos (Vol. II, fig. 10: 6-7). This shape is quite popular at both sites.

Phaistos fine class C and E **rounded bowls with high curved rim** (Vol. II, fig. 17: 28-33) have no exact parallel from LN II/ FN Knossos, with regard to rim profile. This shape is not common at Phaistos.

Phaistos fine class C and D **carinated bowls** (Vol. II, fig. 18: 1-9) find close parallels in fine simple and profiled carinated bowls of types 3a and 3b from LN II/ FN Knossos (Vol. II, figs. 4: 21-28, 10: 10-11), but the Phaistos examples have more angular and sharp profiles. This shape has a limited popularity at both sites.

Phaistos fine class C **bowls with high/ angular carination** (Vol. II, fig. 18: 14-15) find exact parallels in similar fine bowls from FN Knossos (Vol. II, fig. 14: 2). This shape has a total of two occurrences at Knossos and a limited popularity at Phaistos.

Phaistos class C **carinated bowls with high offset rim** (Vol. II, fig. 18: 16-18) find parallels in fine carinated bowls with offset rim of type 4a from LN II/ FN Knossos (Vol. II, fig. 4: 31). Phaistian bowls have more angular and higher rims. This type of bowl has a bigger popularity at FN Phaistos.

Phaistos fine class C **spherical/ squat bowls with collar rim**, which are exclusively associated with dense incised decoration (Vol. II, figs. 18: 21-24, 25: 17-20), find exact parallels in similar vases from LN II/ FN Knossos (Vol. II, figs. 4: 38-39, 9: 9-12). This shape is rare at Phaistos and somewhat more popular at Knossos.

2.2. Necked jars

Phaistos coarse class A deep bowls/ jars with mouth narrower than the widest body diameter (Vol. II, fig. 15: 12-13) find parallels in similar coarse bowls/ jars of type 6 (Vol. II, fig. 4: 33) and have the same rim profile with type 5 bowls with incurved rim from LN II/ FN Knossos (Vol. II, figs. 4: 32, 12: 10). The overall popularity of this shape is small at both sites.

Phaistos class A globular short-necked jars (Vol. II, fig. 15: 18-19) have no exact parallels from LN II/ FN Knossos, where necked-jar typology is very general and includes narrow-necked jars of type 7 and funnel/ high-necked jars of type 8 (Vol. II, fig. 4: 34-37). This type has a small popularity at Phaistos and could belong to a globular short-necked variation of Knossos type 7 jars.

Phaistos class C spherical jars with openings on the mouth (Vol. II, fig. 19: 1) find no parallels at LN II/ FN Knossos, unless Knossos strainers (Vol. II, App. II, Table 8) belong to this type. This shape has a single occurrence at Phaistos, while strainers belong to the group of rarer shapes at Knossos.

Phaistos class C jars with wide and short neck (Vol. II, fig. 18: 25-30) find parallels in funnel-necked jars of type 8 from LN II/ FN Knossos (Vol. II, fig. 4: 35). Knossos funnel-necked jars belong to a general type, which includes coarse and fine jars with more or less wide, short or high neck. Phaistos jars have more standardised shape and elaborate rim profiles. Their popularity is limited at both sites.

Phaistos coarse class A and fine class C high-necked jars (Vol. II, fig. 16: 3-4, 19: 2) find parallels in similar coarse and fine jars from LN II/ FN Knossos (Vol. II, fig. 4: 37). Phaistos high-necked jars have slightly offset rim and, occasionally, higher neck. The neck of Knossos jars is about 1/3 of the total height and of

Phaistos jars is either the same or 1/2. This shape seems to be commoner at Phaistos.

Phaistos coarse class A **amphorae** (Vol. II, fig. 16: 1-2) have no obvious parallels from FN Knossos. They are either large-sized (30 cm. high) or small-sized (15 cm. high). Large-sized amphorae could correspond to LN II/ FN Knossos funnel-necked jars of type 8 with globular body and two big ribbon/ ring handles on the neck. Small-sized amphorae have wide neck, slender body and angular handles on the neck. This shape and handle type is not known from Knossos.

Phaistos **bottles**, which appear in coarse class B, medium classes F and G and once in fine class C (Vol. II, figs. 16: 5-7, 19: 3), have no obvious parallels from LN II/ FN Knossos. Bottles are a specific form of high-necked jars with narrow neck and flaring rim. The only class C bottle has an exceptionally high neck (Vol. II, fig. 19: 3). At Knossos, where necked jar typology is not as detailed, similar vases could have been grouped together with funnel/ high-necked jars of type 8. The popularity of this shape is small at Phaistos.

3. Rims

FN Phaistos and LN II/ FN Knossos have the same rim typology (Vol. II, Apps. III, C, p. 68; II, C6, p. 51). Rims on coarse bowls are rounded, squared and slashed and on fine ones rounded, offset or flaring. Offset rims have more angular and elaborate profiles at Phaistos. Slashed rims on coarse jars are more common at Phaistos than at Knossos (Vol. II, figs. 14: 1, 24: 4). Finally, LN II/ FN Knossos coarse bowls occasionally bear a flat plastic band on the rim, unparalleled from Phaistos (Vol. II, fig. 8: 7).

4. Rarer shapes

FN Phaistos and LN II/ FN Knossos rarer shapes have many overlapings and a small number of differences (Vol. II, App. III, Table 5; App. II, Table 8). More precisely, **double vases** and **spoutless jugs** (Vol. II, fig. 19: 4-5, 11) are known only from Phaistos and **"rhyton" and "strainers"** (Vol. II, fig. 10: 18) only from Knossos.

Phaistos class C **conical and cylindrical cups** (Vol. II, fig. 19: 6-8) find close parallels in similar cups and flat-based mugs from LN II/ FN Knossos (Vol. II, fig. 10: 14, 20).

Phaistos **jugs with V-shaped spout** (Vol. II, fig. 19: 15) find parallels in similar jugs from FN Knossos (Vol. II, fig. 14: 3-4). This shape has one occurrence at Phaistos in medium buff red scribble burnished ware (class G) and two occurrences at FN Knossos, one in fine black polished ware and another in buff red polished ware.

Phaistos coarse class A **baking pans/ rectangular trays** (Vol. II, fig. 20: 1-2) find close parallels in shallow platters and rectangular trays from LN II/ FN Knossos (Vol. II, figs. 5: 1-2, 10: 13).

Phaistos coarse class A **fruitstands with open work on the foot** (Vol. II, fig. 20: 3-4) find exact parallels in similar vessels from LN II/ FN Knossos (Vol. II, fig. 10: 16-17).

Phaistos fine class C **low-footed chalices or bowls** (Vol. II, fig. 20: 5-9) find parallels in similar vessels from LN II/ FN Knossos (Vol. II, fig. 10: 15).

Phaistos **ladles with long solid handle** (Vol. II, fig. 20: 10-11) find parallels in similar ladles/ spoons from LN II/ FN Knossos (Vol. II, figs. 5: 7-8, 10: 19).

5. Miniature vases

Miniature vases are common at both sites (Vol. II, Apps. III, C, p. 69, II, C6, p. 52). The Phaistian repertoire includes cylindrical, conical cups and juglets (Vol. II, fig. 20: 12-22), while the LN II/ FN Knossian one includes similar cups, saucers and bowls (Vol. II, fig. 11: 1-4). One LN II/ FN Knossos cylindrical cup (Vol. II, fig. 11: 4), in particular, has a close parallel from Phaistos (Vol. II, fig. 20: 21).

6. Size

No difference can be observed between FN Phaistos and LN II/ FN Knossos pottery (Vol. II, Apps. III, C, p. 69; II, C6, p. 52). Coarse bowls are larger than fine ones. The rim diameter of the former varies between 50 cm. and 25 cm. and of the latter between 25 cm. 15 cm. Coarse, medium and fine necked jars have more or less the same size and their height varies between 20 cm. and 30 cm.

7. Handles, lugs and ears

Handle/ lug/ ear typology is richer at Phaistos than at LN II/ FN Knossos (Vol. II, Apps. III, Table 6, II, Table 9).

Ring/ ribbon handles are the staple type of handle at FN Phaistos (Vol. II, fig. 20: 23-25) and at LN II/ FN Knossos (Vol. II, fig. 6: 1-2). They are used on coarse bowls and on necked jars, amphorae and spoutless jugs of all ware types. These handles are often saddled and occasionally appear in batteries of two or more (Vol. II, fig. 6: 6).

Phaistos ribbon handles with a prong at the top (Vol. II, fig. 20: 28) find exact parallels at LN II/ FN Knossos (Vol. II, fig. 11: 8). These handles are occasionally used on necked jars.

Phaistos **wishbone handles** on bowl rims (Vol. II, fig. 21: 11-15) find very close parallels at LN II/ FN Knossos (Vol. II, figs. 6: 10, 11: 14-15) and have the same morphology according to ware. At both sites, coarse wishbone handles are rounded in shape with a minute prong at the top, but those from Phaistos have a bigger variety as to size and outline (Vol. II, figs. 21: 11-12, 6: 10). Fine ones are either simple or knobbed at both sites (Vol. II, figs. 21: 13-15, 11: 14-15). These handles are rare.

Phaistos **tab/ flap handles** on bowl rims (Vol. II, fig. 21: 1-4, 7-9) find close parallels at LN II/ FN Knossos (Vol. II, fig. 6: 11-12) and have the same morphology according to ware. Coarse tab/ flap handles have triangular outline and fine ones circular. These handles are rare at both sites.

Phaistos **circular handles** on class F bowls (Vol. II, fig. 21: 5-6, 10) have no parallels from LN II/ FN Knossos. They are a large-sized version of coarse wishbone handles or of fine tab handles.

Phaistos **"plaited" handles** (Vol. II, fig. 22: 11-12) have no parallels from LN II/ FN Knossos. They make rare appearances on fine class C necked jars and have an obvious decorative purpose.

Phaistos **angular handles** (Vol. II, fig. 22: 4-10) have no parallels from LN II/ FN Knossos. These are a form of ribbon handle with angular profile and have a small popularity on fine class C necked jars and small-sized amphorae.

Tubular lugs are the staple type of lug at FN Phaistos (Vol. II, fig. 22: 1-3) and at LN II/ FN Knossos (Vol. II, fig. 6: 3-4). They are mainly used on fine and medium ware bowls and necked jars. Occasionally, they are saddled and may appear in batteries of two or more (Vol. II, figs. 6: 5-6, 11: 5).

Phaistos **unperforated lugs** (Vol. II, fig. 22: 13-17) find parallels at LN II/ FN Knossos (Vol. II, fig. 8: 3). They appear on the belly of coarse necked jars and on fine bowls.

Phaistos **double horizontal and vertically perforated lugs** (Vol. II, fig. 21: 16) find parallels in similar lugs from LN II/ FN Knossos (Vol. II, fig. 11: 16). They are very rare at both sites.

Phaistos **cylindrical lugs** (Vol. II, fig. 22: 18-19) find close parallels in similar lugs from LN II/ FN Knossos (Vol. II, fig. 11: 9). These lugs are rare and are used on fine bowls.

False lugs are popular at FN Phaistos (Vol. II, fig. 22: 20-21) and at LN II/ FN Knossos (Vol. II, fig. 11: 10-11). They are used on fine bowls and have a decorative character.

Phaistos **long plastic lugs** (Vol. II, fig. 21: 20-24) have no parallels from LN II/ FN Knossos. They are occasionally used on fine high-necked jars and can be vertical or horizontal.

Horn-like lugs are rare at FN Phaistos (Vol. II, fig. 23: 3-6) and at LN II/ FN Knossos (Vol. II, fig. 11: 17). They are applied on coarse and fine deep bowls and on the belly of necked jars.

Knob-like lugs are rare and are known only from FN Phaistos (Vol. II, fig. 23: 1-2). They are low circular knobs, which appear on fine carinated bowls.

Zoomorphic/ anthropomorphic lugs are extremely rare at FN Phaistos (Vol. II, fig. 23: 7, 29) and at LN II/ FN Knossos (Vol. II, fig. 11: 19-21). They are applied on the rim of open vessels and are purely decorative and probably symbolic too.

Phaistos **square lugs** (Vol. II, fig. 21: 17-19) find close parallels at LN II/ FN Knossos (Vol. II, Pl. 1B: right). They make occasional appearances on fine bowls.

Pairs of circular ears on bowl rims are rare at FN Phaistos (Vol. II, fig. 23: 8-9) and at LN II/ FN Knossos (Vol. II, fig. 11: 18, 22).

8. Spouts

Spouts are common at FN Phaistos and LN II/ FN Knossos, but have a different typology at each site. Phaistos spouts are V-shaped and are mainly used on fine bowls (Vol. II, App. III, C, p. 71; figs. 19: 12-14, 23: 10-11). LN II/ FN Knossos spouts on bowls are of the trough-and-bridge and tubular types and very rarely V-shaped (Vol. II, App. II, C6, p. 54; fig. 12: 1-3). Finally, there is a single occurrence of a unique rounded jar with a V-shaped spout on either side of the rim from Phaistos (Vol. II, fig. 23: 12).

9. Bases and feet

FN Phaistos and LN II/ FN Knossos have a lot in common in this area of typology. Bases are flat and less often slightly rounded or concave (Vol. II, Apps. III, C, pp. 71-72; II, C6, p. 54). Ring bases on bowls are common at both sites (Vol. II, figs. 23: 17-22 and 12: 4), while omphalos bases make occasional appearances only at Phaistos (Vol. II, fig. 23: 16). In the area of foot typology the two sites have certain types in common. These are: high cylindrical and hollow feet on fruitstands (Vol. II, figs. 20: 3-4, 10: 16-17), low cylindrical feet on bowls (Vol. II, figs. 23: 19-24, 12: 7) and small solid feet (Vol. II, figs. 23: 27, 12: 8). Knossos low cylindrical feet can be solid or hollow or partially hollow (Vol. II, fig. 12: 5-7). Particular to Phaistos are: a cylindrical and hollow on the inside foot (Vol. II, fig. 23: 25) and a fine high-necked jar with three small and horizontally perforated feet attached on the base (Vol. II, fig. 23: 28).

10. Wares and surface treatment

At first glance, comparison between FN Phaistos and LN II/ FN Knossos wares presents certain difficulties. Phaistos pottery is grouped into seven classes (A-G) (Vol. II, App. III, Table 7). Classes A and B belong to coarse, C, D, E to fine and F and G to medium ware. LN II/ FN Knossos pottery is separated only into coarse and fine ware. However, Knossos ware types include all Phaistos coarse and fine classes (Vol. II, App. II, Table 10). Only Phaistos medium classes, which are associated with necked jars, are absent from Knossos.

Coarse ware forms more or less 50% of each assemblage. The bulk of coarse Phaistos pottery belongs to class A, which is characterised by thick-walled, buff and hard fired fabric. Surface is left unburnished, but most often is wiped/ scored or brushed and very occasionally scribble burnished or washed. Exactly similar is coarse ware from LN II/ FN Knossos. Phaistos coarse class B is rare and includes smoothed grey ware. A small group of similar ware occurs at LN II/ FN Knossos too.

Fine ware forms about 40% to 50% of each assemblage. The bulk of fine Phaistos pottery belongs to class C, which is characterised by thin-walled, dark red and hard fired fabric. Surface is often dully dark burnished. Exactly similar is fine burnished ware from LN II/ FN Knossos. In addition, there are small groups of finely black polished and very thin-walled ware from both sites. On the other hand, another small group of buff thin-walled unburnished and often incised ware seems to be particular to LN II/ FN Knossos. Phaistos fine classes D and E have a small popularity and correspond to orange burnished and bright red burnished ware. Small quantities of similarly coloured burnished ware occur at LN II/ FN Knossos too.

Phaistos **medium ware** classes F and G have a limited popularity (10% of the assemblage). These classes are similar to coarse class A as to fabric, but receive specialised types of decorative surface

treatment. Their small popularity may have to do with the fact that they are almost exclusively used on necked jars. Class F jars are red/ black mottled and red washed allover and class G jars are scribble or pattern burnished. Jars of both classes bear a broad granulated zone on the belly. All these types of decoration, with the exception of granulation, are known from LN II/ FN Knossos, but never in these combinations (Vol. II, App. II, Table 11). More probable is the presence at Knossos of class G, since there are several red scribble burnished neck fragments (Vol. II, Pl. 10B: top left).

11. Decoration

Decoration is mainly applied on bowls. Phaistos has a richer variety of types than Knossos, but the two sites overlap to a great extent (Vol. II, Apps. III, Table 8, II, Table 11). Jabbed, incised decoration and open style in syntax are the most popular at both sites. All types, particular to Phaistos, have a limited popularity and are associated with necked jars.

Plastic decoration has a very low popularity at FN Phaistos and Knossos and is characterised by rope pattern on bowls (Vol. II, figs. 24: 1-3, 12: 9)

Pointillé/ impressed/ jabbed decoration is the most popular at both sites and is characterised by open style in syntax. Impressed/ pointillé decoration is occasionally used on coarse bowls and consists of single or double lines under the rim (Vol. II, fig. 24: 5-6), while only at Phaistos zig-zags as well as double lines appear on coarse necked jars (Vol. fig. 24: 8 and 7, 16-18). Pitting, which is a rough form of dotted decoration, is also used on coarse ware from both sites. Knossos ribbon handles occasionally have a pointillé strip, a feature unparalleled from Phaistos (Vol. II, fig. 11: 6). Jabbed decoration on fine bowls is characterised at both sites by the same variety in the shape of jabs and shares the same pattern repertoire of horizontal single or double and multiple lines (Vol. II, figs. 24: 22-25, 12: 11-15). Multiple lines are commoner at

Knossos and free-standing groups of dots at Phaistos (Vol. II, fig. 25: 1, 3-5, 7). Other rarer patterns, known in jabbed technique only from FN Knossos, are zig-zag bands and hatched bands (Vol. II, fig. 14: 6-7).

Incised/ grooved decoration is second in popularity at both sites. It is occasionally used on coarse bowls and necked jars, without forming elaborate patterns (Vol. II, figs. 25: 9-12, 9: 5-6, 13: 1). On the other hand, buff thin-walled unburnished ware with dense incised/ grooved decoration is known only from LN II/ FN Knossos (Vol. II, figs. 9: 1-4, 13: 2-3). Decoration on fine bowls is characterised by open style in syntax, but there are differences in the pattern repertoires of the two sites. FN Knossos shows a preference for all six variations of vertical seam patterns (Vol. II, fig. 13: 6-11), while only one of them is in use at Phaistos (Vol. II, fig. 24: 19-21). On the other hand, multiple horizontal lines combined with groups of dots are more common at Phaistos (Vol. II, fig. 25: 2, 6). Another less popular pattern, common to both sites, is single horizontal rows of short strokes (Vol. II, figs. 25: 21-24, 7: 19, 14: 2, 4). Sometimes this pattern is combined with a fringe of long incised lines at Phaistos (Vol. II, fig. 25: 23), a feature reciprocated from Knossos in jabbed technique (Vol. II, fig. 12: 14).

More elaborate patterns do occur, but in small numbers. First of all, incised zig-zags, chevrons and hatched triangles are mainly known from Phaistos. They are exclusively used on necked jars and are arranged in open style on the neck or shoulder of these vases (Vol. II, fig. 25: 13, 16, 15, 14). At FN Knossos, zig-zags appear in jabbed technique and chevrons in channelling, while both patterns are used on bowls only (Vol. II, fig. 14: 5-6, 8). On the other hand, hatched triangles are totally absent from FN Knossos, but were extremely popular on MN Knossos bowls and quite popular on LN I similar vases (Vol. II, fig. 7: 12-14). Finally, close-set incised hatched bands and ladder patterns on spherical/ squat bowls with collar rim are remarkably similar at both sites (Vol. II, figs. 25:

17-20, 7: 15-18, 9: 9-12, 13: 4-5). Furthermore, at both sites, the execution of these patterns is mean, since they are occasionally scratched after firing or stamped by a cylinder (Vol. II, Pl. 8A: top row).

Red scribble burnished decoration is present in small numbers at FN Phaistos and FN Knossos. It is applied on lightly burnished surfaces on the neck of FN Knossos and Phaistos class G high-necked jars (Vol. II, Apps. II, C6, p. 58, Pl. 10B: top left, III, C, p. 76).

Partial burnishing is known only from FN Phaistos and has a small popularity. It is a specialised type of decoration, used exclusively on fine class C necked jars (Vol. II, App. III, C, p. 75).

Alternating burnishing is known only from FN Phaistos and has a very small popularity. It is exclusively used on class C necked jars and is confined to a broad zone of incised zig-zags or triangles on the neck or shoulder of these vases (Vol. II, App. III, C, p. 76).

Pattern burnished decoration is present at FN Phaistos and FN Knossos. It is applied on lightly burnished bowls and the main pattern is hatched bands (Vol. II, figs. 26: 15, 13: 12-13). This decoration is also typical of Phaistos class G necked jars.

Channelling/ fluting/ ribbing has a limited popularity at FN Phaistos and FN Knossos (Vol. II, Apps. III, C, p. 76, II, C6, p. 58). This decoration is mainly used on bowls and occasionally on necked jars.

Red/ black mottled decoration: is present in small numbers at FN Phaistos and Knossos (Vol. II, Apps. III, C, p. 76, II, C6, p. 58). It is mainly used on fine burnished bowls and has a striking colour contrast effect. It is also typical of Phaistos class F necked jars.

White paste and red ochre incrustation is present in small numbers at FN Phaistos and FN Knossos (Vol. II, App. III, C, pp. 76-77, App. II, C6, p. 58). White incrustation is more popular at Knossos and red at Phaistos. Simple band decoration and single hatched bands appear under the rim of fine black burnished bowls from both sites. Hatched bands also appear on Phaistos V-shaped spouts (Vol. II, fig. 26: 8-10) and single zig-zags or rows of diamonds and triangles on the neck of necked jars from the same site (Vol. II, fig. 26: 11-14). Combination of red and white incrustation on the same vase is known only from Phaistos.

Granulation is known only from FN Phaistos and has a limited popularity (Vol. II, App. III, C, p. 77). It is applied on the belly zone of necked jars and bottles of classes B, F and G. Sometimes, single incised zig-zag lines appear on the granulated zone.

12. General Conclusions

FN Phaistos and FN Knossos pottery typology demonstrates strong affinities with regard to their quantitative and stylistic character. Rounded bowls and bowls with straight profile are the most popular shapes at both sites. Coarse unburnished wiped/ scored ware and fine dark burnished ware form the great majority of the two assemblages. Jabbed decoration and open style in syntax prevail at both sites.

Differences of the presence/ absence type are mainly confined to traits of limited popularity. Most of them, come from Phaistos and are associated with necked jars, which have a more developed and elaborate typology there. Other types known only from Phaistos, but not related to necked jars are: rounded bowls with high curved rim, double vases, spoutless jugs, circular handles, knob-like lugs, "omphalos" bases and small solid feet. All types particular to Phaistos are listed below.

Phaistos

Shapes	Vol. II
rounded bowls with high curved rim	fig. 17: 28: 33
globular short-necked jars	fig. 15: 18-19
bottles	fig. 16: 5-7
spherical jars with openings on the mouth	fig. 19: 1
amphorae	fig. 16: 1-2
spoutless jugs	fig. 19: 11
double vases	fig. 19: 4-5
Handles/ lugs	
"plaited" handles	fig. 22: 11-12
angular handles	fig. 22: 4-5
long plastic lugs	fig. 21: 20-24
circular handles on bowl rims	fig. 21: 5-6
knob-like lugs	fig. 23: 1-2
Bases/ feet	
"omphalos" bases	fig. 23: 16
small solid feet	fig. 23: 28
Wares	
red/ black mottled and granulated ware (class F)	
scribble/ pattern burnished and granulated ware (class G)	
Decoration	
partial burnishing	
alternating burnishing	
granulation	fig. 16: 6
incised zig-zags	fig. 25: 13
incised hatched triangles and chevrons	fig. 25: 14-15

The number of traits particular to Knossos is much smaller and includes the following types:

Knossos	Vol. II
"rhyton"	fig. 10: 18
"strainers"	
trough-and-bridge spouts	fig. 12: 1-2
seam patterns	fig. 13: 6-11
incised/ channelled chevrons	fig. 14: 5, 8
jabbed zigs-zags	fig. 14: 6
jabbed hatched bands	fig. 14: 7

Quantitative and stylistic differences occur too. Phaistos fine bowls have more angular profiles and rim typology. V-shaped spouts are popular at Phaistos, but very rare at Knossos, where trough-and-bridge ones are the norm. Knossos incised decoration shows a preference for seam patterns, which stretch the vertical axis of vases. Phaistos incised patterns are horizontally arranged around the most prominent parts of the vase. Horizontal arrangement also prevails in jabbed decoration from both sites, but the Knossos repertoire is richer and includes patterns, such as, zig-zags and hatched bands. Red ochre incrustation is more popular at Phaistos and white paste incrustation at Knossos, while combination of both colours on the same vase occurs only at Phaistos.

CHAPTER VIII

PHAISTOS AND KNOSSOS RELATIVE CHRONOLOGY

1. Introduction

The typological closeness of FN Phaistos and Knossos pottery is firmly established through their comparative analysis (Ch. VII). In this chapter, all elements of a common background are evaluated and the relation of the two sites, within the context of relative chronology, is analysed and discussed.

2. Common background

Certain traits of FN Phaistos pottery typology have a long history of evolution at Knossos and indicate a common background.

Wishbone and flap/ tab handles are present in the Knossian sequence right from the EN I (Vol. II, App. I, Table 4). From the LN I onwards, they lose their elegance and have a different morphology according to ware (Ch. VI, 2.1.1), which can also be observed at FN Knossos and Phaistos (Ch. VII, 7).

Ladles/ spoons: In LN I Knossos, ladles/ spoons with long solid handle are introduced alongside the traditional ladles with long-pronged wishbone handle (Vol. II, App. II, p. 37; fig. 5: 7-8). From LN II onwards, long solid handles become the only type used on this shape (Vol. II, fig. 10: 19). The appearance of this type may derive from the drop in popularity of ripple burnished decoration, since long-pronged handles were associated with this decoration (Ch. VI, 2.1.2). At Phaistos, ladles have long solid handles (Vol. II, fig. 20: 10-11) and ripple burnished decoration is absent (Vol. II, App. III, Table 8).

Open style in syntax characterises all types of FN Phaistos and FN Knossos decoration and, in particular, jabbed and incised decoration (Ch. VII, 11). At Knossos, this style is gradually established. It appears in small numbers in LN I and LN II to become predominant in the FN (Ch. VI, 2.1.3, 2.2.2, 2.3.1).

Hatched bands and ladder pattern, densely arranged on spherical/ squat bowls with collar rim (Vol. II, figs. 9: 9-12, 25: 17-20), are very popular in LN I and LN II Knossos incised decoration (Ch. VI, 2.1.2, 2.2.2). Incised hatched bands are still present in small numbers at FN Knossos, but they are much narrower than before (Ch. VI, 2.3.1; Vol. II, fig. 13: 4). Also at FN Knossos, this pattern is promoted to an independent unit and appears in jabbed technique (Vol. II, fig. 14: 7). At Phaistos, these motifs are used on a very small group of incised ware and are remarkably similar to the Knossian examples (Ch. VII, 11; Vagnetti, 1972, 75). However, they look quite "alien" among the decorated pottery of Phaistos, where not only open style prevails but also such elaborate patterns are totally absent from incised or jabbed decoration.

3. Relative chronology

The presence of a FN phase at Knossos had not been initially realised (Ch. IV, 2.1.2). For this reason, the small-group of Phaistian-like pottery from West Court sounding FF is the only direct link between the two sites mentioned in the literature (Evans J.D., 1971, 113-114; Vagnetti and Belli, 1978, 132, 157). J.D. Evans suggests that this group may indicate the occurrence at Knossos of a whole phase with similar pottery, since it was locally made and not an import from Phaistos. Such a phase is, indeed, present at Knossos, as our study has already shown (Ch. VII). Moreover, it has become evident that FN Knossos is typologically the last phase of the LN sequence there and not an independent period (Ch. IV, 3).

FN Phaistos totally overlaps with FN Knossos and has a common background with it. It also overlaps, to a great extent, with LN II Knossos, since FN Knossos differs from it only in decoration (Ch. VI, 2.3). On the other hand, FN Phaistos is characterised by a specialised group of types of limited popularity, which are absent from Knossos (Ch. VII, 12). The most important among them are necked jars of classes F and G. These classes are considered by Vagnetti (1972, 48-49) as somewhat later than the rest of the Phaistian assemblage, because they are more popular in the upper FN stratum of the site, but, at the same time, she makes the point that they do not represent a separate phase (Vol. II, App. III, B1).

It is also worth mentioning that a smaller number of differences appears from the Knossos side, especially in the pattern repertoire of jabbed decoration (Ch. VII, 12). All these differences can be explained as local variations. Otherwise, the two sites share the same staple traits in all areas of typology and belong to the same phase.

4. The character of the FN phase

The FN phase of Phaistos and Knossos is characterised by the interaction of improvements in pot firing and efforts for mass production. The two assemblages are at the same level of pot making technology. Fine and coarse ware are hard-fired and share the same types of fabric and surface treatment (Ch. VII, 10). More precisely, coarse ware is unburnished scored/ wiped and fine ware burnished. The abandonment of burnish on coarse ware is related to the achievement of harder and better firing and its use on fine ware has a rather decorative purpose (Ch. V, 3.1).

At both sites, jabbed and incised decoration and open style in syntax are the most popular (Ch. VII, 11). The two assemblages also share a whole range of other types of decoration. These are: plastic decoration, channelling/ fluting/ ribbing, red scribble burnishing, pattern burnishing, red/ black mottling and white/ red incrustation.

The predominance of open style in syntax and the presence of red scribble and pattern burnishing, red/ black mottled decoration and white/ red incrustation are related to experimentation with new decorative techniques as well as to efforts for mass production (Ch. VI, 2.3.2, 2.3.3). However, these tendencies are kept well on the side and the bulk of pottery is typically neolithic. Moreover, all these innovations in decorative techniques for the creation of colour contrast require good firing control, which has a long history of gradual improvement at Knossos, and are rather a development than a break from the older tradition (Ch. V, 4). Only incrustation, which is applied after firing, is a totally new technique, but it is used in a manner reminiscent of older prototypes (Ch. VI, 2.3.3).

In conclusion, what characterises most this phase is a tendency for exploration of new ways that creates typological variety and gives the impression of the emergence of new needs for mass production or/ and new colour concepts in decoration. From this point of view, this phase is transitional. Incrustation also is a technique which usually appears in transitional phases (Jones, 1986, 761) and, in the case of Crete, is not used after the FN. The rate of change in this phase is high, but it is mainly confined to decoration. FN Phaistos classes F and G could be seen as a result of this new "spirit", since they are characterised by the combination of various decorative surface treatment types, in which red colour prevails (Vol. II, App. III, Table 7). Finally, FN Phaistos shows a general preference for the colour red and polychromy, as the popularity of red against white incrustation and the application of both colours on the same vase indicate (Ch. VII, 11).

4.1. New types

It is not possible to identify any new types within the Phaistian assemblage without the help of the Knossos evidence, since Phaistos pottery has no local historic depth. On the contrary, a number of new types enters the Knossian assemblage in the LN II and FN phases (Ch. VI, 2.2.4, 2.3.4) and all have parallels from Phaistos (Ch. VII, 12).

Of particular interest are those LN II and FN Knossos new types without obvious neolithic origin. All these and their Phaistos equivalents are listed below alongwith certain EM I-like types known only from Phaistos (Ch. VII).

EM I-like types

	Knossos/	Phaistos	Vol. II
rectangular trays	+	+	figs. 10: 13, 20: 1
fruitstands with openwork	+	+	figs. 10: 16, 20: 3
chalices	+	+	figs. 10: 15, 20: 8
"rhyton"	+	-	fig. 10: 18
"strainers"	+	-	
double vases	-	+	fig. 19: 4
spoutless jugs	-	+	fig. 19: 11
jugs with V-shaped spout	+	+	figs. 14: 3, 19: 15
horn-like lugs	+	+	figs 11: 17, 23: 3
vertically perforated double lugs	+	+	figs. 11: 16, 21: 16
zoomorphic anthropomorphic lugs	+	+	figs. 11: 19, 23: 29
V-shaped spouts	+	+	figs. 12: 3, 23: 11
ring bases	+	+	figs. 12: 4, 23: 18
short hollow feet	+	+	figs. 12: 7 23: 22
oval-sectioned solid feet	+	+	figs. 12: 8 23: 27
small solid feet	-	+	fig. 23: 28
chevrons	+	+	figs. 14: 5, 25: 15
zig-zags	+	+	fig. 14: 6, 25: 13
hatched triangles	-	+	fig. 25: 14

Ring bases are common at both sites and V-shaped spouts only at Phaistos. All other new types are rare at FN Knossos and Phaistos, but become popular in the succeeding EM I period. Their presence in small numbers in the FN phase can be interpreted as a manifestation of yet another effort for innovation and of the transitional character of the phase. Zoomorphic/ anthropomorphic lugs, "rhyton" and double vases (kernoi?) indicate the introduction of "symbolic" types in this phase.

All new types are fully adapted, with regard to surface treatment and decoration, to the neolithic tradition and could not be placed in the EM I period, since, by that time, they appear in different types of ware. Jugs with V-shaped spout and double vertically perforated lugs are the most characteristic of all new types as to their EM I character. Jugs have two occurrences at Knossos and one at Phaistos and double lugs a few occurrences at each site. It would have been reasonable to suppose that these types are intrusive into the neolithic levels, as it has been suggested by Vagnetti (1972, 86) for the Phaistos jug with V-shaped spout. The point is, however, that at least one jug from Knossos (Vol. II, fig. 14: 4) is totally adapted to the neolithic tradition. It is black burnished and has a single row of incised strokes on it. This type of surface treatment and decoration is typical of the neolithic period only (Vol. II, fig. 7: 19). The other two jugs are in red monochrome burnished ware, which is also typical of this period (Ch. VII, 4). In the case of double horizontally perforated lugs, the one from Phaistos (Vol. II, fig. 21: 16) is applied on a FN vase with incised decoration, typical again of the neolithic period only, while the Knossian examples are too fragmentary to be dated on the basis of such criteria (Vol. II, fig. 11: 16).

On the other hand, fruitstands/ chalices, horn-like lugs, ring bases, zig-zags and hatched triangles have remote EN and MN prototypes. Fruitstands/ chalices and ring bases were present in EN II Knossos (Ch. VI, 2.2.4). Horn-like lugs appear in the EN I and then in the LN I (Ch. VI, 2.1.5, 2.2.4). Zig-zags were very popular in EN I and EN II Knossos (Ch. VI, 2.3.4). Incised hatched triangles were also extremely popular in MN and quite popular in LN I Knossos (Vol. II, Apps. I, C, p. 22, II, C1, pp. 40-41). The difference is that all these patterns are arranged in open and not in dense style, which was so characteristic of all previous periods. In any case, it would have been difficult to see how these patterns could have re-appeared after such long intervals.

5. Conclusions

FN Phaistos and FN Knossos belong to the same chronological horizon and define a FN phase. This phase has close affinities with LN II Knossos and a common background with Neolithic Knossos. It is characterised by a high rate of change and shows a tendency for mass production and experimentation with new decorative techniques. For this reason, it has a transitional character, which is also manifested through the ability to fully adapt to the neolithic tradition all new EM I-like types introduced in small numbers in this phase.

CHAPTER IX

THE LN/ FN POTTERY OF CRETE

1. Introduction

All methodological problems encountered in the six previous chapters (III-VIII) had to do with the lack of a final publication of LN/ FN Knossos (Ch. IV, 2.1) and the difference in the depth and method of analysis of the pottery assemblages from Knossos and FN Phaistos (Ch. VII, 1). The situation with the remaining twenty-one LN and FN sites of the island, sampled in this thesis (Vol. II, App. IV to App. XXIV), is worse. Some of them are totally unpublished, others were published in the early years of this century and some others are fully published in recent years. Their uneven representation in the literature requires a specific kind of methodology for their study. This chapter deals with this problem and, then, an effort is made to distinguish the various groupings of sites formed on the basis of relative chronology and pottery typology.

2. Methodology

The pottery assemblages from all LN/ FN sites are presented in the relevant appendices of volume II, following a geographical division of the island into: North-Central, South, East and West Crete. Five sites, Levena-Yerokampos II (Vol. II, App. X, A), Kastelli Phournis well (Vol. II, App. XVIII, A), Gerani cave (Vol. II, App. XIX, A), Ellenes Amariou rock-shelter (Vol. II, App. XXII, A) and Platyvola cave (Vol. II, App. XXIV, A), are unpublished. Nevertheless, I had the opportunity to study the pottery from all of them but Ellenes Amariou. I also obtained permission to publish the Kastelli Phournis well (Mantelli, 1992).

Ten more sites, Eileithyia cave (Vol. II, App. IV, A), Miamou cave (Vol. II, App. IX, A), Magassas rock-shelter and house (Vol. II, App. XI, A), Ayios Nikolaos rock-shelter (Vol. II, App. XII, A), Mochlos settlement and cemetery (Vol. II, App. XIII, A), Trapeza cave (Vol. II, App. XIV, A), Grymani rock-shelter (Vol. II, App. XV, A), Skaphidia cave (Vol. II, App. XVI, A), Kastellos settlement and rock-shelters (Vol. II, App. XVII, A) and Koumarospilio cave (Vol. II, App. XXI, A), were published in the early part of this century, when neolithic pottery was seen as aesthetically "inferior" to Minoan wares. For this reason, the terminology and approach used is rather obscure and unsystematic compared to the current trend. More importantly, the level of detail in the presentation of pottery typology is uneven, since description, in most cases, is general and selective. Only Trapeza cave (Pendlebury et. al., 1935-36) and Koumarospilio cave (Jantzen, 1951) stand out for their systematic and detailed approach. With the exception of Koumarospilio, I did not have access to any other of these assemblages, because some of them had already been given for publication to other researchers and others were "missing" from the Museums storerooms.

The last six sites, Partira rock-shelter (Vol. II, App. V, A), Mitropolis and Acropolis Gortinas settlements (Vol. II, Apps. VI-VII, A), Kaloi Limenes house (Vol. II, App. VIII, A), Lera cave (Vol. II, App. XX, A) and Nerokourou settlement (Vol. II, App. XXIII, A), were fully published in recent years and their analysis is systematic and detailed. I also had the opportunity to study the pottery from Lera and Nerokourou. However, even these publications present problems. The discussion of relative chronology and comparative study of pottery from Kaloi Limenes (Vassilakis, 1987) and Lera cave (Guest-Papamanoli & Lambraki, 1976) is somewhat confused as to methodology and interpretation. On the contrary, all remaining publications are characterised by a clear and coherent approach.

It is obvious that the processing of all this material is impeded by a number of methodological problems. First of all, the quality and quantity of data available vary a great deal from site to site. The two ends of the spectrum are well illustrated by Ellenes Amariou, from which only a handful of vases is published (App. XXII, A), and by Nerokourou, which is published in great detail (Vol. II, App. XXIV, A). Second, the out-dated concept of the aesthetic inferiority of LN pottery and the consequent neglect of a detailed presentation, which characterises most of the early publications, makes difficult the process of sorting out the neolithic pottery from each site. Miamou (Vol. II, App. IX, C) exemplifies this situation very clearly. Third, these discrepancies confuse the issue of pottery typology, since some sites appear in the literature to have but a few types and others very rich typologies. Finally, my permission to study the various assemblages did not include taking photos or making drawings.

To overcome these problems, each site is separately presented in a different appendix and an effort is made to balance the evidence, by processing all data using a uniform system and terminology. This system is based on a quantitative and stylistic approach, similar to that used for Knossos and Phaistos (Vol. II, Apps. I-III). In the case of unpublished sites, every possible detail is mentioned and evaluated. Those published in the early years of this century are revised and up-dated. Very useful results derive from the application of this method in the study of Trapeza cave, where it becomes evident that the two pottery groups indentified by the excavator and dated in two different neolithic phases (Vol. II, App. XIV, F) correspond to coarse and fine ware of the same period. Pottery assemblages published in recent years are classified according to the same system, but certain methodological problems do exist in this case too. For example, Nerokourou typology (Vol. II, App. XXIII, C) is too detailed for our standards and Lera too general (Vol. II, App. XX, C). To avoid confusion, all these assemblages are first presented as they appear in the publication and then, are adapted to our system. In this way, cross-checking is easier and data uniformity is also achieved.

The second and last stage of data processing in the appendices is the comparative analysis of each assemblage, on the basis of its similarities and differences from LN Knossos and/ or FN Phaistos. These two sites are our main points of reference, because they include the whole spectrum of neolithic typology. The position of each site within the existing framework of relative chronology is also outlined and any different chronology or interpretation, put forward by the excavator, is discussed. No distinction is made between LN and FN Knossos, since the latter is identified for the first time, in this thesis (Ch. IV, 3).

Our approach has the advantage of an as much as possible even representation of data, without losing track of earlier research. The choice of presenting and discussing each assemblage separately was dictated by the need to overcome the individual methodological problems of each site and by the degree of accessibility to the pottery from each one of them. However, certain sites are still less known than others and there is no cure for that without the help of a final publication. If nothing else, our system brings to surface these gaps at their real dimensions.

3. Groups of sites

Two main groups of sites can be distinguished on the basis of relative chronology, as this emerges from the comparative study of their pottery assemblages (Vol. II, Apps. IV-XXIV). These are: LN and FN sites.

3.1. LN sites

Three sites belong to this group and are: Mitropolis Gortinas, Magassas rock-shelter and house and Gerani cave.

Mitropolis Gortinas was an open settlement site, although no neolithic architectural remains were found there (Vol. II, App. VI, B). The neolithic pottery includes certain MN types, but the majority

of it belongs to the LN I Knossos (Central Court stratum II) phase. It is a matter of interpretation to decide whether the site was occupied in both periods or only in the LN I (Vol. II, App. VI, E).

Magassas: The neolithic pottery from the Magassas rock-shelter and house forms a uniform LN assemblage, with the exception of a few EN traits. All data available on Magassas typology are rather general and do not provide specific links with LN Knossos. Only surface treatment and decoration give a small number of more precise parallels with LN I Knossos (Central Court stratum II). On the other hand, it presents certain differences from it, such as predominance of coarse over fine ware. (Vol. II, App. XI, C, D, E). In this case, the best evidence for relative chronology is the total absence of later than LN I types.

Gerani cave: Tzedakis (1970; 1971; 1979) established an EN II to LN Gerani sequence, based on direct comparisons with Knossos. Our pottery typology revision has shown that, apart from the sporadic occurrence of EN and MN types, the bulk of pottery is homogeneous and finds parallels at LN Knossos and some more at FN Phaistos. On the other hand, important differences emerge between Gerani and the other two sites in all areas of typology, while there are similarities with LN/ FN Koumarospilio cave (Vol. II, App. XIX, C, D, E). It is obvious that Gerani typology is more complicated than Tzedakis' reconstruction and is discussed in greater detail in the next chapter (X, 5.1, 5.1.1).

3.2. FN sites

All remaining sites belong to the FN period and can be divided into two more groups. The first one includes all standard-sized pottery assemblages, which find parallels at LN II/ FN Knossos and FN Phaistos. Their typology and relative chronology is discussed in the next chapter (X).

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First group of FN sites

Eileithyia cave group A
Acropolis Gortinas settlement
Kaloi Limenes house
Miamou cave
Trapeza cave
Skaphidia cave
Kastellos Tzermiadon settlement and rock-shelter
Kastelli Phournis well
Lera cave
Koumarospilio cave
Ellenes Amariou rock-shelter
Nerokourou settlement
Platyvola cave

The second group of FN sites is characterised by very homogeneous small-sized pottery and is quite distinct from the previous one. It could be conventionally called "Partira" group, since it is best represented at the Partira rock-shelter (Ch. XII).

Second group of FN sites

Eileithyia cave group B
Partira rock-shelter
Levena-Yerokampos II cemetery
Ayios Nikolaos rock-shelter
Mochlos cemetery
Grymani rock-shelter

CHAPTER X

FN POTTERY TYPOLOGY AND RELATIVE CHRONOLOGY

1. Introduction

This chapter examines the pottery typology of the first group of FN sites (Ch. IX, 3.2), following the geographical division of Crete into North-Central, South, East and West. Moreover, the typological links of each site with FN Phaistos and/ or LN Knossos are identified as well as their similarities and differences from these sites. Finally, the relative chronology of all sites is discussed in a separate section (6).

2. North-Central Crete

2.1. Eileithyia cave Group A

The typology of Eileithyia Group A pottery is presented in detail in a different context (Vol. II, App. IV, C1). Although only a small number of vases is published and there are no sufficient quantitative data, certain types are specialised enough to give a clear picture of the dating of the assemblage. Rounded bowl with offset rim (Vol. II, fig. 27: 4), amphora (Vol. II, fig. 28: 2), bottle (Vol. II, fig. 27: 7), the small vertical and horizontally perforated lugs on amphora (Vol. II, fig. 28: 2), the ring base of deep jar (Vol. II, fig. 28: 1), red/ black mottled and scribble burnished decoration are typical of FN Phaistos (Vol. II, App. IV, C1a). All remaining Group A types, namely, rounded bowls, carinated bowls, high-necked jars, ribbon/ ring handles and tubular lugs are staple types of LN Knossos and FN Phaistos.

2.1.1. Differences and similarities

At Eileithyia, as at FN Phaistos, bowls are the most popular shape as opposed to necked vases. However, Group A shape repertoire (Vol. II, App. IV, Table 1) is much poorer than that of Phaistos (Vol. II, App. III, Table 4). Similar is the case of Group A handle/ lug typology and types of decoration (Vol. II, App. III, Tables 6, 8), while a whole range of Phaistian traits, such as rarer shapes, feet and ware/ surface treatment types (Vol. II, App. III, Tables 5, 7) are totally absent. These differences may be due to the incomplete state of publication of the Eileithyia assemblage.

On the other hand, **carinated bowl** (Vol. II, fig. 27: 6) differs from its Phaistian and Knossian parallels (Vol. II, figs. 18: 1-15, 4: 21-28, 10: 10-11) in that the carination is formed just above the rounded base, while the norm is for the carination to appear halfway the body and for the base to be flat. **Vertical and vertically perforated cylindrical lugs** (Vol. II, fig. 27: 5) have no exact parallels from Phaistos nor Knossos. The same goes for the arrangement of handles/ lugs on **amphora** (Vol. II, fig. 28: 2). Finally, all Group A bowls and necked jars have **rounded bases**, while at Knossos and Phaistos bases are usually flat.

3. South Crete

3.1. Acropolis Gortinas settlement

Acropolis Gortinas pottery is fully published and comes from an open settlement, although no neolithic building remains were found there (Vol. II, App. VII, B). All typological aspects of this assemblage find exact parallels at FN Phaistos and can be grouped according to Phaistos pottery classes A-G (Vol. II, App. VII, C-D; figs. 39-40). As at Phaistos, bowls are the most popular shape (Vol. II, App. VII, Table 1). All pottery is hard and evenly fired. Coarse unburnished class A and fine dark burnished class C form the bulk of the assemblage and are more or less equally balanced. Also as at

Phaistos, class G scribble/ pattern burnished and granulated high-necked jars have a limited popularity. Even horizontal and vertically perforated lugs, which have a single occurrence at Phaistos (Vol. II, fig. 21: 16), have another one here (Vol. II, fig. 40: 3). The only difference is that Acropolis Gortinas does not include the full range of Phaistos typology and classes B, D, E and F are totally absent.

3.2. Kaloi Limenes house

Kaloi Limenes pottery is fully published and comes from the foundation deposit of a small FN house (Vol. II, App. VIII, B). It is very homogeneous and monotonous as to typology. A small number of characteristic types, which find parallels at FN Phaistos, give the date of the assemblage. These are: rounded bowl with offset rim (Vol. II, fig. 41: 1), conical bowl (Vol. II, fig. 42: 1), fruitstand with openwork on the foot (Vol. II, fig. 42: 2), globular short-necked jar (Vol. II, fig. 42: 3) and the small vertical and horizontally perforated lug on the fruitstand. Some of these types are closely paralleled from FN Eileithyia cave Group A too (Vol. II, App. VIII, C-E).

3.2.1. Differences and similarities

Kaloi Limenes is mainly a bowl assemblage, but it is obvious that it lacks a whole range of Phaistian traits in all areas of typology (Vol. II, App. III, C). It also presents marked differences in ware types and decoration. All pottery is dull and badly baked and 80% of it is coarse and lightly slipped or partly burnished. Fine ware is of poor quality, rather thick-walled and burnished. Finally, decoration is totally absent. At Phaistos, pottery is hard and well fired and coarse and fine ware are more or less balanced. Coarse ware is most often left unburnished and never slipped. Fine ware is always burnished and includes a group of very thin-walled and black polished pottery (Vol. II, App. III, Table 7).

All differences are interrelated as to their interpretation. The predominance of coarse ware explains, to a great extent, the lack of decorated pottery, since decoration is mainly used on fine ware at Phaistos (Vol. II, App. III, C, p. 73). It is also responsible for the absence of a whole group of shape and handle/ lug types which appear exclusively in fine class C at Phaistos (Vol. II, App. III, Tables 4, 6). The use of slip or burnish on coarse ware must be related to the bad firing of Kaloi Limenes pottery. At Phaistos and LN/ FN Knossos, the abandonment of burnish on coarse ware is related to the achievement of good and hard firing, which secures pot impermeability (Ch. V, 3.1; Ch. VIII, 4).

3.3. Miamou cave

The neolithic pottery from Miamou is not at all well published and there is little precise information on it (Vol. II, App. IX, C). As it becomes obvious in the comparative study (Vol. II, App. IX, D), only a small number of types provide firm chronological links. Carinated bowls with dense incised decoration (Vol. II, fig. 43: 2) are typical of LN I Knossos (Central Court stratum II), while bottles (Vol. II, fig. 43: 4) and carinated bowls with high rim, "omphalos" base and a row of incised short strokes around the carination (Vol. II, fig. 43: 3) find their closest parallels at FN Phaistos. Due to the lack of data, it is not possible to distinguish whether the remaining material belongs to the LN I or the FN period. Handle/ lug typology is characterised by the presence of basic neolithic types, such as ribbon handles and tubular lugs, while horizontally and vertically perforated lugs are too generally described. Finally, apart from incised decoration, no other type is present at Miamou.

3.3.1. Differences and similarities

As at Phaistos and Knossos, the most popular shape is the bowl (Vol. II, App. IX, Table 1). Pans is the only shape reported from coarse ware and have rounded base (Vol. II, fig. 43: 1). At Knossos and Phaistos this shape is rare and has flat base (Vol. II, Apps. II,

Table 8, III, Table 5; fig. 20: 2). Miamou coarse vases are unburnished, badly fired and were obviously used for cooking. LN Knossos and FN Phaistos coarse ware is unburnished, but hard fired and without traces of having been used in fire. On the other hand, Miamou fine ware includes finely dark burnished pieces of good quality, similar to the best examples from LN Knossos and Phaistos. All in all, Miamou pottery appears to have poor typology, probably because of the general and obscure character of the publication.

4. East Crete

4.1. Trapeza and Skaphidia caves and Kastellos Tzermiadon

Trapeza cave, Skaphidia cave and Kastellos Tzermiadon settlement and rock-shelters are located in the area of the Lasithi plateau, at a small distance from each other. All three share the same type of pottery and have been systematically published (Vol. II, Apps. XIV, XVI, XVII). The Trapeza assemblage is the richest in quantity and fully representative of the pottery typology of this region.

Trapeza cave: Pendlebury (et. al., 1935-36) distinguished two groups of pottery: "Neolithic pottery" and "Trapeza ware" (Vol. II, App. XIV, C1-C2). As the comparative study has shown, the former corresponds to fine and the latter to coarse ware (Vol. II, App. XIV, D1-D2). The two groups together form a homogeneous assemblage, which has firm typological links with FN Phaistos (Vol. II, App. XIV, F). The most important are: developed necked jar typology (Vol. II, fig. 48: 1-6, 8-11), tubular lugs, ribbon handles (Vol. II, figs. 46: 1-3, 47: 10-11, 48, 7-9, 15), square lugs (Vol. II, fig. 47: 9), unburnished wiped/ scored coarse ware and burnished fine ware, incised rows of short strokes and simple impressed decoration on fine ware (Vol. II, fig. 46: 5-10), plastic decoration of wavy bands and of human frontal faces on coarse necked jars (Vol. II, figs. 48: 10-11, 47: 3-4, 48: 12, 49: 5), single impressed zig-zags (Vol. II, fig. 49: 4) and red/ black mottled decoration on coarse ware.

Skaphidia cave: The neolithic Shaphidia pottery is exactly similar to that from Trapeza cave and can be grouped into the same categories of fine "Neolithic pottery" and coarse "Trapeza ware" (Vol. II, App. XVI, C). As it becomes obvious in the comparative study of the assemblage, it finds close parallels at FN Phaistos (Vol. II, App. XVI, D). However, there is indication of an earlier occupation of the cave, in the form of two ripple burnished sherds, which were found outside the main FN deposit (Vol. II, App. XVI, B). These sherds may belong to the LN II Knossos phase (Central Court stratum II) (Vol. II, App. XVI, D, p. 144).

Kastellos Tzermiadon: The neolithic pottery from Kastellos settlement and rock-shelters forms a homogeneous assemblage. It can also be grouped into the same categories of fine "Neolithic pottery" and "Trapeza ware" (Vol. II, App. XVII, C) and finds close parallels at FN Phaistos in all areas of typology (Vol. II, App. XVII, D). In addition to the Phaistian links identified from Trapeza cave, Kastellos includes some more: rectangular trays (Vol. II, fig. 50: 7), slashed rims (Vol. II, fig. 50: 8-9), ribbon handles with a prong (Vol. II, fig. 50: 11), wishbone short-pronged handles (Vol. II, fig. 50: 11) and incised hatched bands (Vol. II, fig. 50: 7).

4.1.1. Differences and similarities

Trapeza cave: As Phaistos, Trapeza is a bowl assemblage (Vol. II, App. XIV, Table 1), but it has a much poorer shape repertoire (Vol. II, App. III, Table 4). Another difference is that dishes (Vol. II, App. XIV, p. 133) seem to be quite popular in fine ware at Trapeza. Dishes/ pans belong to the group of rarer shapes at Phaistos (Vol. II, App. III, Table 5). Handle/ lug typology shares the same staple types (ribbon handles/ tubular lugs) with Phaistos, but a whole range of Phaistos types is totally absent (Vol. II, App. III, Table 6). However, long plastic wavy bands with a horizontal perforation at the top (Vol. II, fig. 48: 11), are remarkably similar to Phaistos long plastic lugs (Vol. II, fig. 21: 22). Marked differences appear in base typology. Trapeza coarse vases often have

rounded or egg-shaped bases, while one of them has a base with double thickening (Vol. II, figs. 47: 6, 49: 3). At Phaistos, flat bases are the norm and there are no egg-shaped ones (Vol. II, App. III, p. 71).

In the area of ware and surface treatment, the main difference appears in the quality of firing. Trapeza coarse ware is badly baked and unburnished wiped/ scored, while fine ware is dark burnished. Phaistos coarse ware also bears the same type of surface treatment, but is hard and well fired and fine ware is most often dark burnished. Another difference is that there is a small group of burnished cooking pots among Trapeza coarse ware, which is absent from Phaistos. Finally, coarse pottery is by far more popular than fine ware at Trapeza, while coarse and fine pottery are more or less equally balanced at Phaistos (Vol. II, App. III, C, p. 67).

Differences appear in decoration too. The overall amount of decorated sherds from Trapeza is much smaller and a whole group of Phaistos types of decoration is absent (Vol. II, App. III, Table 8). This difference may derive from the predominance of coarse ware at Trapeza, since decoration is mainly applied on fine ware (Vol. II, App. III, C, p. 73). However, the relatively high occurrence of plastic human faces on Trapeza high-necked jars is remarkable, when compared to the single occurrence of an anthropomorphic lug, probably from a bowl, from Phaistos (Vol. II, fig. 23: 29). Red/ black mottled decoration on Trapeza coarse ware is dull and the colour contrast effect mild (Vol. II, App. XIV, C1, p. 136). This comes to direct contrast with the striking colour effect produced on Phaistos red/ black mottled ware (Vol. II, App. III, C, p. 76).

Skaphidia cave: This assemblage is similar to Trapeza cave pottery and presents the same differences and similarities to Phaistos. It also has certain differences from Trapeza. There are no coarse burnished cooking pots nor high-necked jars with plastic wavy bands or human faces from Skaphidia (Vol. II, App. XVI, Table 1). Finally, the pattern of zig-zag appears in incised and not in impressed decoration at Skaphidia (Vol. II, figs. 49: 4, 50: 3).

Kastellos Tzermiadon: This assemblage is similar to Trapeza cave pottery and presents the same similarities and differences from FN Phaistos. Its main difference from Trapeza is that it does not include plastic human frontal faces nor incised or impressed zig-zags.

4.2. Kastelli Phournis well

The neolithic pottery from the Kastelli Phournis well is unpublished, but I had full access to it. This is a very homogeneous assemblage of 34 vases, characterised by a rather rich necked jar typology (Vol. II, App. XVIII, C). Although it presents quite a few differences from FN Phaistos, all basic types find parallels there (Vol. II, App. XVIII, D). The most important typological links are: carinated bowl with offset rim (Vol. II, fig. 62: 3), spoutless jugs (Vol. II, fig. 60: 1), ribbon handles (Vol. II, Pl. 18A), small vertical perforated lugs (Vol. II, fig. 54: 1), small unperforated lugs (Vol. II, fig. 58), plastic rope pattern (Vol. II, fig. 51), orange/ red incrustation (Vol. II, Pl. 12), red/ black mottled decoration (Vol. II, Pl. 13A) and red scribble burnished decoration (Vol. II, Pl. 18B). A small number of types finds its closest parallels at FN Nerokourou settlement. These are: squat pyxis with solid ear-like lugs (Vol. II, fig. 62: 2), mug (Vol. II, fig. 62: 1) and angular handles on spoutless jugs (Vol. II, fig. 60: 1).

4.2.1. Differences and similarities

A major difference between Kastelli Phournis and FN Phaistos is that necked vases and high-necked jars, in particular, are the most popular (Vol. II, App. XVIII, Table 1; figs. 51-61). On the other hand, there are only three occurrences of open shapes, namely one carinated bowl, one squat pyxis and one mug (Vol. II, fig. 62). Moreover, spoutless jug (Vol. II, fig. 60: 2), amphorae (Vol. II, figs. 55-56) and spherical narrow-necked jar (Vol. II, fig. 58) have no close parallels from Phaistos (Vol. II, App. XVIII, D). High-necked jars are always provided with small vertical and horizontally

perforated lugs, which are the most popular type at Kastelli, as opposed to ribbon handles and tubular lugs at Phaistos (Vol. II, App. XVIII, Table 2). This type of lug never appears on necked jars at Phaistos (Vol. II, fig. 22: 15).

Kastelli Phournis pottery presents marked differences from FN Phaistos in the area of **wares and surface treatment**. There is no real distinction between coarse and fine ware. All pottery is unevenly fired, thick-walled and monochrome burnished (Vol. II, App. XVIII, Table 3). FN Phaistos pottery is hard and evenly fired, but coarse ware is unburnished and fine ware thinner-walled and burnished (Vol. II, App. III, Table 7). The use of burnish on Kastelli Phournis pottery may serve two purposes that of masking surface colour variations and of increasing pot impermeability, a property particularly important for vases used in a well (Ch. V, 3.1). Differences also appear in **pot making technology**. The cylindrical short-necked jar (Vol. II, fig. 57, Pl. 14B) is a "freak" occurrence, in the sense that the whole vase was formed in one go, out of a single lump of clay. Even its lugs were formed by pinching clay from the neck. As a result, this vase is very thick-walled, heavy, irregularly-shaped and lop-sided. Smaller irregularities can also be observed on other necked vases of the assemblage. The carination on the body of high-necked jar (Vol. II, fig. 54: 2, Pl. 13B) is not on the same level all around, and the vase is lop-sided.

Finally, differences appear in **decoration** too. Very few vases are decorated and only a small number of Phaistos types of decoration are present (Vol. II, App. III, Table 8). The most characteristic example is high-necked jar (Vol. II, fig. 51, Pl. 12), which bears plastic rope pattern and orange paste incrustation (Vol. II, App. XVIII, p. 154). A few more necked jars have striking red/ black mottled decoration (Vol. II, Pls. 13A, 15B). Plastic dots on ribbon handles (Vol. II, fig. 56), although unparalleled from Phaistos, fall within the tradition of applying decoration on handles (Vol. II, fig. 20: 28).

5. West Crete

Five caves (Gerani, Lera, Koumarospilio, Ellenes Amariou and Platyvola) and one settlement (Nerokourou) from West Crete belong to this group of FN sites. Their pottery assemblages have certain typological traits particular to them, but, at the same time, they have firm links with LN/ FN Knossos and FN Phaistos. Gerani and Lera caves were probably occupied in earlier periods too.

5.1. Gerani cave

Gerani pottery typology (Vol. II, App. XIX, C) is characterised by a remarkable homogeneity throughout the EN II to LN sequence established by the excavator (Tzedakis). This sequence is based on direct comparisons with EN to LN Knossos. However, Gerani lacks any trend of improvements in pot firing techniques and of typological evolution through quantitative and stylistic changes (Vol. II, App. XIX, E), which determine the identity of each Knossian period. Moreover, Knossos typology is based on a clearly stratified sequence, while there are reasons to believe that Gerani stratigraphy is not undisturbed, as it was originally thought.

Within this homogeneous assemblage, there is a small number of traits of small popularity, which serve as chronological indicators (Vol. II, App. XIX, D). Trumpet lugs, pronged wishbone handles and incised square net pattern are typical of EN Knossos. Ripple burnished decoration on carinated bowls and long-pronged handles is a MN hallmark and quite popular in LN I (Central Court stratum II) Knossos. Isolated plastic knobs on deep bowls with straight profile (Vol. II, fig. 63: 1-2, 5, 8-9) are characteristic of LN I Knossos (Vol. II, fig. 7: 1). Goblets with cylindrical and hollow flat-based foot (Vol. II, fig. 64: 10) have an exact parallel from FN Phaistos (Vol. II, fig. 23: 25). The open style in syntax of parallel pointillé lines on goblet (Vol. II, fig. 67: 2) and of incised multiple zig-zags on carinated bowl (Vol. fig. 66: 5) are typical of FN Phaistos (Vol. II, figs. 24: 19-21, 25: 13).

5.1.1. Differences and similarities

Gerani is a bowl assemblage and from this point of view is similar to Knossos and Phaistos. Tzedakis (1979) established a very detailed bowl typology (Vol. II, App. XIX, Table 1), according to which every minor rim variation constitutes a separate type. More than one Gerani types find parallels in a single Knossos bowl profile, while there are differences between the two assemblages (Vol. II, App. XIX, D). **Gerani rounded bowls** of types 1A, 1B, 2A and 2B (Vol. II, figs. 63: 1-7, 10-12, 64: 1-2) are deeper and have proportionally narrower rim diameter than their Knossian parallels (Vol. II, fig. 4: 1-3). **Gerani carinated bowls** of types 4A, 4B, 5, 6A and 6B (Vol. II, fig. 65: 3-12) are bigger, have less elaborate profile and mouth narrower than their Knossian parallels (Vol. II, fig. 4: 21-28). On the other hand, bowls with straight profile of type 1C (Vol. II, fig. 63: 8-9) and bowls with splayed profile of type 2C (Vol. II, fig. 64: 3-5) have close parallels from LN Knossos (Vol. II, fig. 4: 12, 14-17 and 13). All these types are too general and simple to give any chronological indication. More specialised are bowls with offset rim of types 3A, 3B and 3C (Vol. II, figs. 64: 6-12, 65: 1-2), which have close parallels from LN Knossos and FN Phaistos (Vol. II, fig. 4: 3, 29-30, 17: 19-27) and **deep bowls with incurved rim** of type 8 (Vol. II, fig. 66: 1), which find their closest parallels at LN/ FN Koumarospilio cave (Vol. II, fig. 72: 3). Finally, **Gerani necked jar typology** is almost non-existent, since there are only type 7 jars with mouth narrower than the biggest body diameter (Vol. II, fig. 65: 13-16). On the contrary, jar typology is developed at LN Knossos (Vol. II, fig. 4: 34-37).

As at Knossos, ribbon/ ring handles and tubular lugs (Vol. II, figs. 63: 7, 64: 2, 6, 9, 12, 65: 2, 11, 15) are the commonest. Otherwise, Gerani handle/ lug typology is poor compared to LN Knossos (Vol. II, App. II, Table 3). Big differences also appear in **ware and surface treatment types**. Gerani pottery is unevenly fired. Coarse, thick-walled and dark burnished ware is predominant. At LN Knossos, coarse and fine ware are balanced and coarse ware is left unburnished

(Vol. II, App. II, C1, p. 39). Finally, decoration is scarce at Gerani (Vol. II, App. XIX, Table 2) and includes but a few LN Knossos types (Vol. II, App. II, Table 4).

Some of these differences may derive from the predominance of coarse ware and the low quality of pot firing. First, the simpler profile and bigger size of Gerani carinated bowls is mainly due to the fact that they appear in coarse ware. At Knossos, these bowls are exclusively associated with fine ware. Second, the use of burnish on coarse pottery must be related to the lower quality of firing (3.2.1). Third, the small amount of decorated pottery from Gerani is also related to the same factor, since decoration is mainly applied on fine pottery. The relatively high popularity of plastic knobs on Gerani coarse bowls (Vol. II, App. XIX, C, p. 163; fig. 63: 1-2, 5, 8-9) is also consistent with this trend, since plastic decoration usually appears on coarse pottery (Vol. II, App. II, C1, p. 40; fig. 7: 1).

5.2. Lera cave

The neolithic pottery from Lera is published by Guest-Papamanoli (and Lambraki, 1976), who established an EN to LN sequence. However, this sequence is based on weak and general arguments (Vol. II, App. XX, D-E). Only trumpet lugs (Vol. II, fig. 70: 6) could indicate an EN I or EN II occupation, but their morphology lacks the elegance of their Knossian parallels (Evans J.D., 1964, figs. 25: 2-9, 11-12, 31: 9, 11-12, Pl. 45: 1: 2-4, 6). Otherwise, the bulk of the material forms a homogeneous assemblage (Vol. II, App. XX, C-D) and includes a fair number of types, which find close parallels at FN Phaistos. These are: spoutless jugs (Vol. II, fig. 68: 19-21), ring handles with a cavity at the top (Vol. II, fig. 69: 4), cylindrical handles (Vol. II, fig. 69: 11), flap triangular handles (Vol. II, fig. 70: 10-11), long vertical and horizontally perforated lugs (Vol. II, fig. 69: 12), horizontal and vertically perforated lugs (Vol. II, fig. 70: 2, 4-5), high hollow feet (Vol. II, fig. 71: 7-8) and a pair of plastic knobs on a bowl rim (Vol. II, fig. 69: 3).

5.2.1. Differences and similarities

As FN Phaistos, Lera is mainly a bowl assemblage (Vol. II, App. XX, Table 1), but does not include the full range of Phaistos bowl typology (Vol. II, App. III, Table 4). Bowls with splayed profile (Vol. II, fig. 68: 10-17) are the commonest at Lera as opposed to rounded bowls and bowls with straight profile at Phaistos (Vol. II, App. III, C, p. 67). **Bowls with incurved rim** (Vol. II, fig. 68: 1-5) seem to be quite popular and find their closest parallels at Koumarospilio cave (Vol. II, fig. 72: 3). In general, **Lera bowls** are rather crudely made, have no standardised rim profiles and belong to types too simple and general for specialised links to be established. The only exception is fine carinated bowls (Vol. II, fig. 68: 18), which have close parallels from FN Phaistos (Vol. II, fig. 18: 9). Finally, there are no **necked jars** from Lera, while Phaistos is characterised by a developed necked jar typology (Vol. II, App. III, Table 4).

Lera handle/ lug typology (Vol. II, App. XX, Table 2) is rich, but does not include the full range of Phaistos types (Vol. II, App. III, Table 6). Certain differences appear in the relative frequency of occurrence of various types too. As at Phaistos, ribbon/ ring handles are the most popular, but second in popularity come decorative **knob-like lugs** (Vol. II, fig. 71: 9-15), which are rare at Phaistos. The use of big triangular flap handles on ladles has no parallels from Phaistos (Vol. II, App. XX, D, p. 173). Lera ribbon handles (Vol. II, figs. 69: 1-2, 4-10, 70: 1) have too small a perforation for their size, while **square handles** have no exact parallels from Phaistos (Vol. II, fig. 69: 10). Marked differences exist in the area of **ware and surface treatment types** too. Unevenly fired, thick-walled and burnished coarse ware is predominant at Lera as opposed to the balanced proportion of coarse and fine ware at Phaistos (Vol. II, App. III, C, p. 67). Moreover, Phaistos pottery is hard and evenly fired and coarse ware is left unburnished (Vol. II, App. III, Table 7).

Finally, **decoration** is rare at Lera (Vol. II, App. XX, C, p. 172) and does not include any characteristic pieces (Vol. II, fig. 71: 17-18). The only exception is the use of **ripple burnished decoration** on spoutless jugs. This type of decoration is not at all known from FN Phaistos, but it has a long history at Knossos. On the other hand, spoutless jugs are present at Phaistos and absent from Knossos. The Lera type of ripple burnishing finds close parallels at FN Knossos (Vol. II, App. XX, D, pp. 174-175). In addition, Lera spoutless jugs with scratched/ striated decoration (Vol. II, fig. 68: 20-21) have close parallels from FN Phaistos (Vol. II, fig. 25: 9-10).

Quite a few of these differences are related to the predominance of coarse ware and the low quality of firing. First, Lera bowls have unstandardised rim typology and simple profiles, because they appear in coarse ware, which is characterised by less elaborate forms than fine pottery (Vol. II, App. III, Table 4). Second, the popularity of decorative knob-like lugs is also related to the same factor (5.1.1). Third, the low quality of firing may be responsible for the use of burnish on Lera coarse ware (3.2.1). Finally, the very small amount of decoration at Lera is a result of the popularity of coarse ware, since decoration is mainly applied on fine pottery (Vol. II, App. III, C, p. 73).

5.3. Koumarospilio cave

The neolithic pottery from Koumarospilio forms a homogeneous assemblage and is published in detail (Vol. II, App. XXI, C). It is not rich in specialised types, but there are enough to provide firm links with FN Phaistos (Vol. II, App. XXI, D). These are: rounded bowls with offset rim and probably a hollow cylindrical foot (Vol. II, fig. 73: 4-5, 9), small vertical and horizontally perforated lugs (Vol. II, fig. 74: 5), pairs of circular and triangular ears on bowls (Vol. II, fig. 72: 1, 73: 6), isolated plastic dots on bowls (Vol. II, fig. 72: 6), seam patterns on cylindrical bowls (Vol. II, fig. 73: 1-2), jabbed decoration (Vol. II, fig. 74: 6), red/ black burnished decoration and granulation (Vol. II, App. XXI, C, pp. 180-

181). On the other hand, bowls of type B with T-shaped rim and tongue-like lugs (Vol. II, fig. 72: 7-8) find parallels at EM Platyvola cave (Vol. II, fig. 82: 6).

5.3.1. Differences and similarities

Koumarospilio is mainly a bowl assemblage (Vol. II, App. XXI, Table 1), but does not include the full range of FN Phaistos bowl typology (Vol. II, App. III, Table 4). **Deep bowls with incurved rim** of type A (Vol. II, fig. 72: 1-6) are the most popular, but have a very small popularity at Phaistos (Vol. II, App. III, C, p. 67). **Deep conical bowls** of type G (Vol. II, fig. 73: 6) have no exact parallels. Koumarospilio bowls, in general, are deeper than their parallels, while the use of **ears on the rim of types A and G** makes them typical of this assemblage only. Moreover, **deep cylindrical bowls** of type C (Vol. II, fig. 73: 1-2) find parallels in bowls with straight profile from Phaistos (Vol. II, fig. 15: 5-7), but present some differences from them too. They have absolutely straight profile, rounded base and often bear **seam patterns**, repeated four times around the vase. Finally, necked jar typology (Vol. II, fig. 73: 7) is not as elaborate as at Phaistos (Vol. II, App. III, Table 4).

Handle/ lug typology (Vol. II, App. XXII, C, p. 179) is poor, compared to FN Phaistos (Vol. II, App. III, Table 6). Important differences appear in **ware and surface treatment types**. The great majority of pottery is coarse, unevenly fired, thick-walled and burnished. At Phaistos, pottery is hard and well fired, coarse and fine ware are equally balanced and coarse ware is often left unburnished. On the other hand, small groups of Koumarospilio coarse pottery is scribble burnished or unburnished scored and find parallels at Phaistos (Vol. II, App. III, Table 7). Differences occur in **decoration** too. A very small amount of pottery is decorated (Vol. II, App. XXI, C, p. 180) and only a small number of Phaistos types of decoration is present (Vol. II, App. III, Table 8). **Red/ black mottled decoration** is used on coarse ware, having a dull appearance,

and on fine burnished pottery, in which case produces a striking colour contrast effect, matching the Phaistos examples (Vol. II, App. III, C, p. 76).

The predominance of coarse ware at Koumarospilio is again responsible for the lack of elaborate and specialised shape, handle/lug and decoration typology. Finally, the use of burnish on coarse ware must be related to the low quality of firing (3.2.1).

5.4. Ellenes Amariou cave

Cylindrical bowl (Vol. II, fig. 75: 1), short-necked globular jar (Vol. II, fig. 75: 2) and ladles with long solid handle (Vol. II, fig. 75: 3-4) are the only vases published from Ellenes Amariou and find close parallels at FN Phaistos (Vol. II, App. XXII, C-D). Remarkable is the similarity of the cylindrical bowl with those from Koumarospilio cave (Vol. II, fig. 73: 1-2). Not only they are exactly similar as to shape, but decoration is arranged in the same way too. The only difference is that Koumarospilio bowls are decorated with seam patterns and the Ellenes Amariou one with pattern burnished decoration. The Ellenes Amariou bowl also has four lugs just above the base.

5.5. Platyvola cave

The neolithic pottery from Platyvola forms a homogeneous assemblage, but is almost totally unpublished (Vol. II, App. XXIV, A, C). It includes certain types which establish typological links with FN Phaistos (Vol. II, App. XXIV, D). These are: cylindrical bowls (cf. Vol. II, fig. 73: 1-2), bowls with incurved rim (Vol. II, fig. 72: 2-3), ribbon handles with a prong (cf. Vol. II, fig. 20: 28), false lugs (Vol. II, fig. 82: 2), plastic decoration and channelling. On the other hand, the presence of ripple burnished decoration on fine carinated bowls indicates a MN or LN I (stratum II) or even LN II (stratum I) Knossos phase at Plaryvola.

5.5.1. Differences and similarities

Platyvola is a bowl assemblage (Vol. II, App. XXIV, C, p. 199), but does not include the full range of the Phaistian repertoire (Vol. II, App. III, Table 4). Bowls with incurved rim seem to be more popular at Platyvola than at Phaistos. Cylindrical bowls are similar to those from Koumarospilio (Vol. II, fig. 73: 1-2) and Ellenes Amariou (Vol. II, fig. 75: 1). The difference is that there are four plastic dots above the base and not four lugs, as in the case of Ellenes Amariou. Finally, Platyvola necked jar typology is not as elaborate as that of Phaistos and includes high-necked jars only.

Handle/ lug typology is poor (Vol. II, App. XXIV, C, p. 199) compared to FN Phaistos (Vol. II, App. III, Table 6). As at Phaistos, ring/ ribbon handles are the commonest. There also is a single occurrence of a small vertical horizontally perforated lug on a neck fragment, which seems to belong to a high-necked jar of the Kastelli Phournis type (4.2.1; Vol. II, fig. 54: 1). Differences appear in surface treatment too. All pottery is unevenly fired. Coarse lightly burnished ware is predominant. Phaistos pottery is evenly fired, coarse ware is often left unburnished and coarse and fine pottery are equally balanced (Vol. II, App. III, C, p. 67). On the other hand, a small group of Platyvola coarse pottery is scribble burnished and finds parallels at Phaistos (Vol. II, App. III, Table 7).

Differences occur in decoration too. A very small amount of pottery is decorated (Vol. II, App. XXIV, C, p. 200) and includes only a few Phaistian types (Vol. II, App. III, Table 8). Plastic dots on ribbon handles find exact parallels at Kastelli Phournis only (Vol. II, fig. 56). Pseudo-ripple burnished decoration is a local imitation. Channelling is produced by deep incisions and not by the alternation of corrugations and furrows, which is typical of Phaistos (Vol. II, App. III, C, p. 76; fig. 26: 1-2). Red/ black mottled decoration is used on coarse ware and has a dull appearance, quite different from the striking colour contrast effect produced at Phaistos (Vol. II, App. III, C, p. 76).

Certain of these differences are related to the predominance of coarse pottery. The rather monotonous shape and handle/ lug typology derives from the scarcity of specialised types, which appear mainly in fine ware. The low popularity of decoration is also related to the same factor, since decoration is primarily used on fine ware. Finally, the use of burnish on coarse pottery has to do with the low quality of firing (3.2.1).

5.6. Nerokourou settlement

The neolithic pottery from Nerokourou is fully published and forms a homogeneous assemblage (Vol. II, App. XXIII, C). It comes from an open settlement, which was occupied during a short period (Vol. II, App. XXIII, B). It is characterised by rather monotonous typology, but there are included certain specialised traits, which establish firm links with FN Phaistos (Vol. II, App. XXIII, Table 1). These are: carinated bowls of type A10 (Vol. II, fig. 77: 2), spoutless jugs of type G1 (Vol. II, fig. 79: 1), bottles of type H2 (Vol. II, fig. 79: 2-3), handles with a prong (Vol. II, fig. 80: 14), cylindrical handles (Vol. II, fig. 80: 1), flap and wishbone handles (Vol. II, fig. 80: 2-3, 4-5), solid tongue-like lugs (Vol. II, fig. 80: 12), short and high conical feet (Vol. II, fig. 81: 3-4), incised zig-zags (Vol. II, figs. 79: 4, 81: 5-7), seam patterns (Vol. II, fig. 81: 13-16) and red/ black mottled decoration.

5.6.1. Differences and similarities

Nerokourou is a bowl assemblage, but it does not include the full range of Phaistos typology (Vol. II, App. III, Table 4). Nerokourou bowl/ jar typology (types A1-A10, E1-E2, F1-F2) is very detailed and records every slight rim or body profile variation (Vol. II, App. XXIII, Table 1). For this reason, more than one Nerokourou types correspond to a single Phaistos type (Vol. II, App. XXIII, D). In general, bowls are more open and considerably shallower (Vol. II, figs. 76: 5-6, 8) than their parallels from Phaistos. Carinated bowls (types A7-A10; Vol. II, figs. 76: 8, 5, 77: 1-2) are coarse, very

shallow, have a simple profile and carination is formed by the turning inwards rim. At Phaistos, these bowls appear in fine ware, are smaller, less shallow and have elaborate profiles (Vol. II, figs. 17: 5-7, 18: 1-15). Only type A10 (Vol. II, fig. 77: 2), which appears in fine ware, has close parallels from Phaistos.

The relatively high popularity of **baking pans or cheese pots** with a handle on the inside and holes on the rim (type D1; Vol. II, fig. 77: 6-8) is unparalleled from Phaistos, where pans belong to rarer shapes and have none of these additional features (Vol. II, App. III, Table 5). **Mugs** of type C1 (Vol. II, fig. 77: 4-5) and **spoutless jugs** of type G1 with angular handle (Vol. II, fig. 79: 1) have no exact parallels from Phaistos, but find close ones from Kastelli Phournis well (Vol. II, figs. 62: 1, 60: 1). **Necked jar typology** (types H1-H2; Vol. II, fig. 79: 2-3) is less elaborate than at Phaistos (Vol. II, App. III, Table 4).

Handle/ lug typology (Vol. II, App. XXIII, Table 2) presents quite a few differences from Phaistos (Vol. II, App. III, Table 6). **Tab handles** (Vol. II, fig. 80: 6-11) on bowl rims is the most popular type, as opposed to ribbon/ ring handles at Phaistos. These handles look like pairs of big, triangular ears with a small perforation, similar to those on Koumarospilio bowls (Vol. II, fig. 73: 6). The difference is that the Nerokourou examples are separately applied and not formed out of the rim. Second in popularity come small tubular lugs (Vol. II, fig. 79: 8-10, 12-13), which are quite popular at Phaistos too (Vol. II, fig. 22: 1-3, 14-15, 19), while ribbon/ ring handles come only third in popularity (Vol. II, figs. 77: 9, 79: 6-7). Finally, **vertical and vertically perforated handles** (Vol. II, fig. 80: 15) have no exact parallels, but similarly perforated cylindrical lugs are known from Eileithyia cave (Vol. II, fig. 27: 5).

Differences appear in ware and surface treatment types too. Nerokourou pottery is of poor quality, unevenly fired and thick-walled. Its great majority (70%) is coarse and lightly burnished. FN Phaistos pottery is hard and evenly fired, coarse and fine ware are balanced and coarse ware is left unburnished. On the other hand, a small group of Nerokourou coarse pottery is washed and finds parallels at Phaistos (Vol. II, App. III, Table 7).

A very small amount of pottery (10%) is decorated and only a small number of Phaistos types is present at Nerokourou (Vol. II, App. III, Table 8). The most characteristic is incised decoration, which includes seam patterns and zig-zags. Seam patterns (Vol. II, fig. 81: 13-16) find close parallels at LN/ FN Knossos and Koumarospilio (Vol. II, figs. 7: 20, 9: 14, 73: 1). On the other hand, zig-zags (Vol. II, figs. 79: 4, 81: 5-7) differ in syntax from their Phaistian parallels (Vol. II, fig. 25: 13) and resemble more the Gerani examples (Vol. II, fig. 66: 5). The use of channelled decoration (Vol. II, fig. 79: 11) on a handle has no parallels. Finally, red/ black mottled decoration is used on coarse ware at Nerokourou and does not produce striking colour contrast effects, as at Phaistos (Vol. II, App. III, C, p. 76).

The predominance of coarse ware is responsible for certain of these differences. First, the simple profiles of carinated bowls is related to this factor, since these bowls appear in fine ware at Phaistos. Second, the very low percentage of decorated pottery also derives from the same reason, because decoration is mainly applied on fine pottery. In general, the Nerokourou assemblage does not include most of the shape, handle/ lug and decoration types associated with fine ware at Phaistos. Finally, the use of burnish on the great majority of Nerokourou coarse ware may be related to the low quality of pot firing (3.2.1).

6. Relative chronology

6.1. North-Central, South and East Crete

The FN pottery assemblages from North-Central, South and East Crete are homogeneous and have strong affinities with FN Phaistos. Only **Miamou cave** (3.3) and **Skaphidia cave** (4.1) show signs of a LN I occupation. At the same time, all sites have marked differences from Phaistos, which derive from the predominance of coarse ware at them. The only exception is **Acropolis Gortinas** (3.1), which is characterised by a close correspondence to it. Relative chronology is defined on the basis of a small number of fine elaborate types, which find close parallels at Phaistos.

Comparisons have been restricted to Phaistos for the sake of convenience, since LN/ FN Knossos is not fully published (Ch. IV, 2.1). However, as it has already been established (Ch. VIII, 3-4), FN Phaistos and FN Knossos overlap, with the exception of necked jar typology, which is more developed at Phaistos (Ch. VII, 12). In this context, this is not important, because necked jars are not at all popular at the other FN sites of Crete. Moreover, FN Phaistos and FN Knossos differ from LN II Knossos mainly in decoration (Chs. VI, 2.3, VIII, 3).

The amount of decorated pottery from the other Cretan sites is small and, without the help of quantitative data, can be placed in either phase. Acropolis Gortinas is the only exception to the rule and can be safely placed in the FN, in Phaistian terms. Nevertheless, the absence of typically LN II types of decoration (i.e. dense incised decoration) from these sites makes a FN date quite probable. However, one cannot exclude the possibility that the LN, outside Knossos and Phaistos, had a longer duration, that is, overlaped with the FN of Knossos and Phaistos.

The presence of certain specialised types is more diagnostic as to their Phaistian or Knossian parallels. Amphora (Vol. II, fig. 28: 2) and bottle (Vol. II, fig. 27: 7) from Eileithyia cave (2.1), bottles and "omphalos" bases (Vol. II, fig. 43: 4-3) from Miamou cave (3.3) and plastic wavy bands or long plastic lugs (Vol. II, fig. 48: 10-11) from Trapeza cave (4.1) belong to types known only from Phaistos (Ch. VII, 12). On the other hand, trays with incised narrow hatched bands (Vol. II, fig. 50: 7) from Kastellos Tzermiadon (4.1) find parallels only at FN Knossos (Vol. II, fig. 13: 4). This pattern has a long tradition at Knossos, but this particular type of narrow hatched bands is typical of FN Knossos (Ch. VIII, 2). It is obvious that the number of localised links is too small for one to speak of different spheres of Knossian or Phaistian influence. They rather indicate a common background for all sites.

Finally, another possible source for the definition of chronology is stratigraphy. The problem is that most sites are characterised by disturbed neolithic deposits, which give no stratigraphic indication for the duration of the occupation. This is the case with Eileithyia, Miamou, Trapeza and Skaphidia caves and Kastellos Tzermiadon settlement and rock-shelters (Ch. II, 5.1, 5.2, 5.4, 7.4, 5.5). On the other hand, the small house at Kaloi Limenes was found in a shallow deposit and was occupied for a short span of the FN (Ch. II, 7.6). Kastelli Phournis well was also in use for a short time of the same period (Ch. II, 7.8). However, there are no real typological differences between the pottery assemblages from the caves and the other two sites and, therefore, it is not possible to define any new pottery phases within the FN.

6.2. West Crete

The relative chronology of the West Cretan sites is more complicated. On one hand, they are characterised by simple and monotonous typologies and predominance of coarse ware, as the sites from the other geographical areas. A small number of fine specialised types also establishes firm links with FN Phaistos. However, three

cave sites, Gerani (5.1), Lera (5.2) and Platyvola (5.5) lack chronological homogeneity and include types of the EN and MN periods. Finally, there are local variations of Knossos and Phaistos types, a trend almost absent from the rest of the island.

Gerani pottery (5.1) would appear to belong to the LN I-II period, if it were not for the presence of certain EN II and MN types, such as trumpet lugs, long-pronged wishbone handles and ripple burnished decoration on carinated bowls. The problem is that the bulk of pottery does not show any elements of internal evolution, therefore, these early types are "isolated" and do not seem to define different typological periods across the assemblage. Decoration makes the whole issue even more complicated (Vol. II, App. XIX, Table 2). On one hand, Gerani incised decoration is typically FN (5.1) and is characterised by patterns such as zig-zag and chevrons, which belong to the West Cretan FN repertoire (6.2.1). Moreover, the goblet with hollow cylindrical foot and pointillé decoration is also typically FN (Vol. II, fig. 67: 2). On the other hand, ripple burnished decoration on carinated bowls belongs either to the MN or LN I period or spreads over both of them, but without the help of quantitative data this issue cannot be clarified.

It is obvious that it is not easy to pinpoint the chronological position of Gerani. A LN I-II date is suggested by the presence of quite a few types, which find parallels in this period at Knossos (5.1.1). However, these types are not very diagnostic, but refer to basic and simple shape forms. The most important chronological indication, then, is the absence from Gerani of a whole range of types known from the other FN West Cretan sites (6.2.1). In conclusion, one interpretation could be that traces of all these periods (EN, MN, LN and FN) were present at Gerani, in mixed neolithic deposits. The stratigraphic evidence comes to support this suggestion, since there are strong indications for disturbance in the cave (Ch. II, 6.3). Another explanation would be that Gerani typology remained the same from EN II to FN and only a few specialised traits changed through time.

Lera and Platyvola pottery typology are less difficult to understand than Gerani. Lera is a homogeneous assemblage with firm links with FN Phaistos (5.2) and includes only one EN type (i.e. trumpet lugs). Platyvola also includes only one MN or LN I trait, namely, ripple burnished decoration on carinated bowls (5.5).

All remaining West Cretan sites, Koumarospilio (5.3), Ellenes Amariou (5.4) and Nerokourou (5.6) are purely FN. However, as in the case of the other geographical areas of the island, the very small amount of decorated pottery causes problems for relative chronology, since there are no sufficient quantitative data to define whether these assemblages belong to the LN II or FN phase. Yet again, is the absence of typically LN II decorative types that makes a FN date quite possible. Finally, firm stratigraphic evidence on chronology comes only from Nerokourou settlement, which was occupied for a short time in the FN (Ch. II, 7.7). All other assemblages come from cave sites with more or less disturbed stratigraphies (Ch. II, 5.7, 5.8).

In any case, what becomes apparent is that there is need for the establishment of a local relative chronology for West Crete, which will take into account the peculiarities and differences of the West Cretan typology from Knossos and Phaistos. An attempt towards this direction is made in this context, although it is not possible to complete the task without a fresh study of the material, especially from Gerani, which was not made available to me (Vol. II, App. XIX, A).

6.2.1. FN West Cretan types and decoration

There are certain idiosyncratic types particular to West Crete, which are variations of FN Knossos and Phaistos prototypes. They appear in all or most of the West Cretan sites and are the following:

Bowls with incurved rim: These are deep bowls with sharply incurved rim. They are quite popular at Lera (5.2.1), Koumarospilio (5.3.1) and Platyvola (5.5.1) caves (Vol. II, figs. 68: 1, 72: 1) and

make rare appearances at Gerani cave (Vol. II, fig. 66: 1). Similar but shallower bowls occur at FN Knossos and Phaistos (Vol. II, figs. 10: 12, 15: 4), where they are not common.

Ears on bowl rims: Pairs of circular or triangular ears on bowl rims (Vol. II, figs. 72: 1, 73: 6) are typical of Koumarospilio cave (5.3.1). A pair of crudely made circular ears (Vol. II, fig. 69: 3) makes a single appearance at Lera cave (5.2.1). Pairs of tab handles on bowl rims are popular at Nerokourou (Vol. II, fig. 80: 7) and resemble triangular ears (5.6.1). Circular ears on bowl rims make rare appearances at FN Knossos and Phaistos (Vol. II, figs. 11: 12, 23: 8), while triangular ears were present in EN I Knossos and died out afterwards (Vol. II, App. I, Table 4).

Deep cylindrical bowls and seam patterns: Deep cylindrical bowls occur at Koumarospilio (5.3.1), Ellenes Amariou (5.4) and Platyvola (5.5.1) caves (Vol. II, figs. 73: 1, 75: 1). The arrangement of seam patterns or pattern burnished bands or plastic dots on them is characterised by the same principles in syntax and has no parallels from Knossos nor Phaistos. Nevertheless, seam patterns on Koumarospilio bowls have one pointillé and one incised line and establish links with Knossos, where such patterns are introduced in the LN I and become popular in the FN (Vol. II, figs. 7: 20, 9: 14, 13: 6-11). At FN Phaistos, there is ommission of the incised line (Vol. II, fig. 24: 19-21). Seam patterns of the Knossian type appear at Nerokourou too (Vol. II, fig. 81: 16).

Incised multiple zig-zags and chevrons: The pattern of multiple zig-zags appears along a broad zone on the upper part of bowls at Gerani (Vol. II, figs. 66: 5, 67: 1) and Nerokourou (Vol. II, figs. 79: 4, 81: 5, 6-10). There is a remarkable similarity between Gerani bowl (Vol. II, fig. 66: 1) and Nerokourou miniature bowl (Vol. II, fig. 79: 4), which has a chronological value too, because Nerokourou can be safely dated in the FN (5.6). Multiple zig-zags have a parallel from FN Knossos (Vol. II, fig. 14: 5) and Skaphidia cave in East Crete (Vol. II, fig. 50: 3), while this pattern appears in the

form of single zig-zags on necked jars at Phaistos (Vol. II, fig. 25: 13). Chevrons are used on Gerani bowls (Vol. II, fig. 67: 1) and bear a close resemblance, as to the dense style in syntax, to hatched triangles on MN Knossos bowls (Evans J.D., 1964, fig. 35: 21, 26). The pattern of chevron is also known from FN Knossos, arranged in open style (Vol. II, fig. 14: 8). In general, the stylistic character of West Cretan zig-zags and chevrons is not reciprocated from Knossos or Phaistos, but is closer to the former.

Ripple burnished decoration on spoutless jugs: At Lera, this MN and LN I Knossos type of decoration is used on a purely FN shape (Vol. II, fig. 68: 19). As it becomes evident in a different section, this combination can be probably dated in the FN (5.2.1).

Pseudo-ripple decoration: This is an imitation of ripple burnished decoration and consists of dense vertical lines "painted" on burnished background. It is known from the cave of Platyvola (5.5.1).

Channelling: This type of decoration is used at Platyvola. It is a crude imitation of Phaistos and Knossos channelling, produced by deep incisions (5.5.1). At Nerokourou, this decoration is used on a handle (Vol. II, fig. 79: 11), a feature unparalleled from any other site (5.6.1). However, the application of decoration on handles is a LN II/ FN trend at Knossos and Phaistos (Vol. II, figs. 11: 7-8, 20: 28).

6.3. New types

Another aspect of relative chronology is the presence or absence of new rare EM I-like types from the FN sites of Crete. Such types of no obvious neolithic origin occur at FN Knossos and Phaistos (Ch. VIII, 4.1). Eight out of the nineteen Knossos/ Phaistos types appear at the other FN sites, while seven more are known from FN sites outside Knossos and Phaistos.

6.3.1. EM I-like types of Crete

The FN Knossos and Phaistos EM I-like types, which are present in other Cretan sites, are the following:

Rectangular trays/ pans: This shape occurs at Miamou cave (Vol. II, fig. 43: 1), Trapeza cave (4.1.1) and Kastellos Tzermiadon settlement and rock-shelters (Vol. II, fig. 50: 7).

Fruitstands/ chalices: Fruitstands make rare appearances at Kaloi Limenes house (Vol. II, fig. 42: 2), Lera cave (Vol. II, fig. 71: 7-8) and Nerokourou settlement (Vol. II, fig. 81: 4). Chalices or pedestalled bowls occur at Koumarospilio cave (Vol. II, fig. 73: 9) and Nerokourou settlement (Vol. II, fig. 81: 3).

Spoutless jugs: This shape is present in small numbers at Kastelli Phournis well (Vol. II, figs. 60: 1-2, 61: 1-2), Lera cave (Vol. II, fig. 68: 19-21) and Nerokourou settlement (Vol. II, fig. 79: 1). Kastelli Phournis spoutless jugs are characterised by a variety in handle/ lug typology. One Kastelli Phournis type (Vol. II, fig. 60: 1) and all Nerokourou jugs are provided with an angular handle raising above the rim.

Horizontal and vertically perforated lugs: This type of lug makes rare appearances at Acropolis Gortinas settlement (Vol. II, fig. 40: 3), Lera cave (Vol. II, fig. 70: 2-5) and Koumarospilio cave (Vol. II, fig. 74: 4). These lugs have no standardised typology.

Horn-like lugs: Quite similar to horn-like lugs from FN Knossos and Phaistos (Vol. II, figs. 11: 17, 23: 3) are horizontal lugs from Lera cave (Vol. II, fig. 70: 5) and tongue-like lugs from Nerokourou settlement (Vol. II, fig. 80: 12).

Anthropomorphic lugs: There are no exact parallels for the Knossos and Phaistos anthropomorphic lugs. However, the plastic human frontal faces on Trapeza necked jars bear a remarkable similarity to them (Vol. II, figs. 47: 3-4, 49: 5).

Ring bases: This type of raised base makes a single appearance in Eileithyia cave Group A (Vol. II, fig. 28: 1).

Zig-zags/ chevrons: Single zig-zags on necked jars are characteristic of FN Phaistos (Vol. II, fig. 25: 13). They also occur at Acropolis Gortinas settlement (Vol. II, fig. 39: 16), Trapeza cave (Vol. II, fig. 49: 4) and Skaphidia cave (Vol. II, fig. 50: 3). Zig-zags and/ or chevrons are occasionally used at Gerani (Vol. II, figs. 66: 5, 67: 1) and Nerokourou (Vol. II, figs. 79: 4, 81: 5-10), but show stylistic differences from Phaistos (6.2.1).

6.3.2. New types outside Knossos and Phaistos

On the other hand, the new, not necessarily EM I-like, types known from other FN Cretan sites outside Knossos and Phaistos are the following:

Squat pyxis with solid ear-like lugs: This shape has a single occurrence from Kastelli Phournis (Vol. II, fig. 62: 2) and two more from Nerokourou (Vol. II, fig. 79: 4-5). The Kastelli example has solid ear-like lugs, which find parallels at Nerokourou (Vol. II, fig. 80: 10-12).

Mugs: These are cylindrical mugs with a narrowing in the middle. They make rare appearances at Kastelli Phournis (Vol. II, fig. 62: 1) and Nerokourou (Vol. II, fig. 77: 4-5).

Baking pans or cheese pots: These are shallow pans with an internal handle, rim raising at equal intervals and holes around the rim. They are known only from Nerokourou (Vol. II, fig. 77: 6-8).

Small vertical and horizontally perforated lugs: This type of lug occurs at Eileithyia cave (Vol. II, fig. 28: 2), at Kaloi Limenes house (Vol. II, fig. 42: 2), at Kastelli Phournis well (Vol. II, fig. 54: 1), at Koumarospilio cave (Vol. II, fig. 74: 5) and at Platyvola cave (Vol. II, App. XXIV, C, p. 200). These lugs are very popular at Kastelli Phournis (Vol. II, App. XVIII, Table 2), but are not at all common anywhere else. Smaller lugs with narrower perforation make rare appearances on Phaistos bowls (Vol. II, fig. 22: 15).

Vertical cylindrical and vertically perforated lugs: This type of lug is used on a bowl from Eileithyia cave (Vol. II, fig. 27: 5) and also has a single occurrence from Nerokourou settlement (Vol. II, fig. 80: 15).

Raised angular handles: This type of handle is associated with spoutless jugs at Kastelli Phournis well (Vol. II, fig. 60: 1) and Nerokourou settlement (Vol. II, fig. 79: 1). Angular handles occur at Phaistos, but they do not rise above the rim (Vol. II, fig. 22: 4, 8).

Rounded egg-shaped bases: This type of rounded base appears on necked jars from Trapeza cave (Vol. II, fig. 48: 9) and on one Kastelli Phournis amphora (Vol. II, fig. 55).

7. Conclusions

All FN sites of Crete have firm typological links with FN Knossos and Phaistos. Their pottery typology is monotonous compared to the rich variety of pottery types from the two main sites. This difference mainly derives from the predominance of coarse ware at most sites. Moreover, pottery is badly fired and coarse ware is burnished. At Knossos and Phaistos, coarse ware is left unburnished and pottery is hard and well fired. The only exception is Acropolis Gortinas, which resembles closely FN Phaistos.

The relative chronology of FN sites from North-Central, South and East Crete is based on the homogeneity of each assemblage and the presence of FN specialised links. Only Miamou and Skaphidia caves include a few LN I traits. However, due to the small amount of decorated pottery, is not possible to exclude the possibility of a LN II/ FN date for most of these sites. West Crete has firm links with LN II/ FN Knossos and FN Phaistos, but also shows signs of a local style. Three West Cretan sites, Gerani, Lera and Platyvola caves, lack in chronological homogeneity, since they include EN II, MN and LN I types.

The picture of poorer typological variety is also matched by the smaller number of EM I-like types present in all FN Cretan sites, as opposed to the bigger range of such types from FN Phaistos and Knossos. At the same time, they include a group of new types not known from the two main sites.

CHAPTER XI

FN TYPOLOGY AND FUNCTION INTERACTION

1. Introduction

As it became evident in the previous chapter (X), the pottery typology from the first group of FN sites has differences from FN Knossos and Phaistos. The study of typology and function interaction can offer an interpretation for the presence of these differences. The analysis of this topic cannot be detailed, since it is mainly based on general observations and a small number of specialised data. The reason is that there is an uneven amount of data on the various sites (Ch. IX, 1).

2. Function of sites

There is a consistent trend of pottery traits that differentiate this group of FN sites from FN Knossos and Phaistos. None of these pottery assemblages includes the full Knossos/ Phaistos shape, handle/ lug and decoration types. Coarse ware is predominant and is often burnished too. Only Acropolis Gortinas resembles closely FN Phaistos (Ch, X, 3.1). A major factor determining the appearance of these differences is the specialised function of each assemblage and site.

General evidence on the role of each site is given by their location, type and size (Vol. II, fig. 1). Eileithyia, Miamou, Trapeza, Skaphidia, Gerani, Lera, Koumarospilio, Ellenes Amariou and Platyvola are cave sites (Ch. X, 2.1, 3.3, 4.1, 5.1, 5.2, 5.3, 5.4, 5.5). Eileithyia cave is located close to the sea, on the North-Central coast of the island and Gerani cave lies near the north coast of West Crete. All other cave sites are situated in upland areas. Certain indications on the use of caves come mainly from Koumarospilio, where the remains of seven burials were found. However, there is no firm stratigraphic evidence on the relation of

the burials to the neolithic occupation (Vol. II, App. XXI, E). In addition, small quantities of human bones were found among the FN deposits from Skaphidia cave and from two Kastellos Tzermiadon rock-shelters (Vol. II, Apps. XVI, B, XVII, B).

All other sites are open-air installations. Kaloi Limenes is a small isolated house on the south coast of Crete (Vol. II, App. VIII, A). Kastellos Tzermiadon is a small open settlement with two adjacent rock-shelters located in the Lasithi plateau, in Eastern Crete. No FN architectural remains were found from the settlement and, therefore, it is not certain that it was occupied in that period (Vol. II, App. XVII, A-B). Nerokourou is a small upland installation and includes a small house surrounded by working platforms for the manufacture of obsidian tools (Vol. II, App. XXIII, A). Finally, Kastelli Phournis is a water well located on an upland area in Eastern Crete (Vol. II, App. XVIII, A).

In general, the location and/ or size of all these sites comes in direct contrast to Knossos and Phaistos, which are big settlements. Knossos is located in the Kairatos river valley in North-Central Crete and Phaistos in the vicinity of the Yerokampos river, in the plain of Messara, in South Crete (Vol. II, Apps. I, A, III, A). These are the only large and most fertile areas of the island. Interestingly enough, Acropolis Gortinas settlement, which produced pottery of the Phaistos type, is located in a smaller valley of a tributary of the Yerokampos river, the Mitropolitanos, in the plain of Messara. It is not possible to estimate the size of this settlement, because of the lack of architectural remains (Vol. II, App. VII, A-B).

2.1. Shapes

All FN sites, with the exception of Kastelli Phournis, produced bowl assemblages and, from this point of view, are similar to Knossos and Phaistos. However, all these sites are characterised by the almost total lack of necked jar typology, which is developed at the

two main sites. Another difference is that certain shapes appear to be popular in some of these sites. Pans and dishes are common at Miamou and Trapeza caves, but belong to rarer shapes at Knossos and Phaistos (Ch. X, 3.3.1, 4.1.1). Moreover, large baking pans or cheese pots are characteristic of Nerokourou only (Ch. X, 5.6.1). The popularity of pans/ dishes derives most probably from the specialised character of the activities carried out at these sites. Nerokourou pans, in particular, must have served as cheese pots (Vagnetti, 1989, 62-64). They have a specialised form and large size; are coarse and thick-walled; have a handle on the inside and the rim rises at equal intervals and bears holes all around (Vol. II, fig. 77: 6-7). Coarse rim fragments with holes are also known from Koumarospilio cave, but, due to their small size, one cannot be certain that they belong to cheese pots (Vol. II, fig. 73: 8).

Also at Nerokourou, bowls tend to be shallower than at cave sites, such as Trapeza, Gerani, Lera and Koumarospilio, where deep bowls prevail (Vol. II, figs. 76 and 47, 63-64, 68, 73). It seems probable that deep bowls served for the storage of various food products. On the other hand, shallow bowls offered a bigger surface for food processing and handling. Differences appear between Nerokourou and the cave sites in the area of handle/ lug typology too. Pairs of triangular tab handles on shallow bowl rims (Vol. II, fig. 80: 6-11) are very popular at Nerokourou (Vol. II, App. XXIII, Table 2). This type of triangular handle is absent from other sites and its closest parallel are ears on deep bowl rims (Ch. X, 6.2.1). The association of tab handles with shallow bowls may be related to the specialised function of these vases.

Totally different is the case of the Kastelli Phournis well assemblage, where necked jars predominate (Ch. X, 4.2.1). The shape of these vases is fully adapted to various activities relevant to the well. Necked shapes are suitable for drawing, pouring and carrying water, while open ones (bowls, pyxis, mugs) for drinking or transfering water from vase to vase (Vol. II, fig. 62: 3, 2, 1). Necked jar specialisation is mainly achieved by applying the "right"

type of handle/ lug at the "right" position and, to a lesser extent, by the size and width of the neck. Small vertical and horizontally perforated lugs under the rim of high-necked jars (Vol. II, figs. 51-54) are suitable for passing rope through them and hold the vase in the well. The arrangement of handles/ lugs on spoutless jug (Vol. II, fig. 60: 2) serves for drawing and pouring water. The high angular handle on spoutless jug (Vol. II, fig. 60: 1) is big enough for one's hand to hold the vase and pour or draw water from a bigger vessel. The neck of spherical jar (Vol. II, fig. 58) is proportionally too narrow, but is suitable for carrying water safely at a distance (by pack animals?). Amphorae (Vol. II, figs. 55-56) must have served the same purpose. A general function of handles/ lugs could be that of tying vases together during transport.

Another factor determining the composition of the assemblage as to shape is the "life-expectancy" of vases. The great majority of pottery belongs to medium-sized high-necked jars (Vol. II, App. XVIII, Table 1). These vases were used for drawing water and a waste caused by the banging against the side of the shaft or by the breaking of the rope, should have been expected. It is then reasonable to assume that the ones found in the well were "lost" during the process of drawing water.

2.2. Wares and surface treatment

All FN assemblages are characterised by the predominance of thick-walled coarse ware, while all pottery is locally made and more or less unevenly fired (Ch. X). Only Acropolis Gortinas pottery is hard and well fired (Ch. X, 3.1). Coarse ware is associated with large vases with simple profiles as opposed to the smaller-sized and more elaborate ones which prevail in fine ware at Knossos and Phaistos (Vol. II, Apps. II, C1, p. 37, III, C, Table 4). Moreover, decoration is mainly used on fine ware and most types of decoration are exclusively associated with this ware category at the two main sites (Ch. VII, 11). This trend is consistent with the typologies of the FN sites of Crete, where simple bowl profiles and limited use of

decoration are the standard. In the few cases, when a fine shape profile is adapted to coarse ware, this acquires a simpler form and bigger size. Carinated bowl typology from Gerani and Nerokourou are the best examples of this situation (Ch. X, 5.1.1, 5.6.1).

Another big difference is the use of burnish or light slip on coarse ware from quite a few of these sites, namely, Kaloi Limenes house, Kastelli Phournis well, Gerani, Lera, Koumarospilio and Platyvola caves and Nerokourou settlement (Ch. X, 3.2.1, 4.2.1, 5.1.1, 5.2.1, 5.3.1, 5.5.1, 5.6.1). The interpretation of this difference must be directly related to the quality of firing. Burnishing was the standard type of surface treatment on coarse ware in EN I Knossos, but was gradually dropped throughout the EN II to MN span and totally abandoned by the LN. Burnish was probably used to secure impermeability, but, as pot firing techniques improved through time, this property was achieved by firing alone. Another purpose of burnish was the achievement of a uniform surface colour, which was also made possible through better firing control conditions (Ch. V, 2.2, 3.1). As a result, LN/ FN Knossos and FN Phaistos coarse ware is hard and evenly fired and has a uniform buff or light red surface colour (Ch. VII, 10).

On the contrary, pottery from the sites with burnished coarse ware is unevenly and badly fired. The use of burnish on them must have served both purposes that of achieving impermeability and of masking, to some extent, surface colour variations. The first property of burnish is particularly important for the Kastelli Phournis water well assemblage. Low quality in pot firing is also characteristic of pottery from Miamou, Trapeza and Skaphidia caves and Kastellos Tzermiadon settlement and rock-shelters, but coarse ware is left unburnished there (Ch. X, 3.3.1, 4.1.1). Only a small group of coarse cooking pots from Trapeza is burnished. Because of the lack of specialised data, it is not possible to estimate to what extent the application of burnish on these pots is due to their function or to an even lower quality of firing.

The practice of applying burnish is kept for fine ware in all LN/ FN, including Knossos and Phaistos, probably because of its colouring property (Ch. V, 3.1). However, fine ware is rather dull at all FN sites -excluding Acropolis Gortinas- and lacks the range of surface colours known from FN Knossos and Phaistos. Moreover, the small group of very fine and thin-walled black burnished pottery, which occurs at the two main sites, is totally absent from any other FN site (Vol. II, Apps. II, Table 10, III, Table 7).

The lower quality of firing and the predominance of coarse ware has implications for the appearance of decoration and, in particular, of red/ black mottling. This type of decoration is used on fine burnished ware at Knossos and Phaistos and creates a striking colour contrast effect (Vol. II, Apps. II, Table 11, III, Table 8). At other FN sites, it usually has a dull appearance and is used on coarse pottery. Such is the case of Trapeza cave (Vol. II, App. XIV, C, p. 136), Koumarospilio cave (Vol. II, XXI, App. 180), Platyvola cave (Vol. II, App. XXIV, C, p. 201) and Nerokourou settlement (Vol. II, App. XXIII, C, p. 193). At the same time, some of these sites produced small quantities of red/ black mottled fine burnished ware of good quality. These are: Eileithyia cave (Vol. II, App. IV, C, p. 81), Kastelli Phournis well (Vol. II, App. XVIII, C, p. 155; Pls. 13A, 15B) and Koumarospilio cave.

3. Interpretation of evidence

The FN sites of Crete are characterised by rather monotonous pottery typology and low quality in pot firing. The first feature derives from the predominance of coarse ware. This "preference" for coarse ware must reflect a need for thick-walled and large vases with simple profile. It is also consistent with the type of installation these assemblages come from (2). Caves, judging from their location, were probably occupied by shepherds on a seasonal basis (Ch. XV) and their pottery is remarkably homogeneous from one end of Crete to the other, with regard to shape range and overall quality. Even Koumarospilio and Skaphidia caves and Kastellos Tzermiadon rock-

shelters, which must have been used for burials, do not show any difference in pottery typology from the other sites. The location and small size of open-air installations (Kaloi Limenes house and Nerokourou settlement) also speak for a seasonal occupation of these sites. The occurrence of cheese pots at Nerokourou indicates that this site specialised in the processing of milk products, which traditionally takes place in the spring and summer (Ch. XV). Finally, Kastelli Phournis well was used as water source and its pottery assemblage was fully adapted to this function.

It seems very probable that the range of activities carried out at these sites was limited compared to those practiced at the two main large settlement sites of Knossos and Phaistos, which are located in the most fertile areas of the island. As a result, differences in shape typology, such as the low popularity of necked jars and the predominance of bowls must be associated with the function and subsistence economy of each site. Acropolis Gortinas settlement offers indirect evidence on this subject, since it is located in a similar environment as the two main sites and is characterised by pottery of the Phaistian type and quality. A further implication of the typology/ function interaction is that all these differences should not be explained as a manifestation of different chronological phases.

The lower quality of pot making technology probably derives from the fact that all these assemblages are locally made. In consequence, a certain lack of expertise and facilities should be expected, given the location and type of occupation of these sites. In other words, the process of improvements in pot firing and the taste for exploration of new colour contrast decorative techniques, which characterise the FN of Knossos and Phaistos (Ch. VIII, 4), is not reciprocated from the other FN sites. However, it should be made clear that the typology of Knossos and Phaistos was "known" to potters outside the two main sites, as the comparative study for the definition of the relative chronology of the FN assemblages from Crete has shown (Ch. X, 6).

CHAPTER XII

THE FN "PARTIRA" GROUP

1. Introduction

This chapter examines the pottery typology and relative chronology of the "Partira" group of FN sites (Ch. IX, 3.2). These sites are distributed in all geographical areas of the island but West Crete and are the following: Eileithyia cave Group B (Vol. II, App. IV, C2) and Partira rock-shelter (Vol. II, App. V, C) in North-Central Crete, Levena-Yerokampos II cemetery (Vol. II, App. X, C) in South Crete and Ayios Nikolaos rock-shelter (Vol. II, App. XII, C), Mochlos cemetery (Vol. II, App. XII, C) and Grymani rock-shelter (Vol. II, App. XV, C) in East Crete.

2. Typology

All these assemblages form a single typological unit, despite their wide geographical distribution. They are composed of a small number of specialised shapes not known from other sites. The conventional name "Partira" is assigned to this group, because most shapes are present at the Partira rock-shelter.

2.1. Shapes

All shapes of this group and the names of the sites they appear at are listed below. Rounded bowls with rim projections and suspension pots with cylindrical lids are the most characteristic. Ladles/ spoons is the only shape of this group known from West Crete (Ellenes Amariou).

"Partira" group shapes

Rounded bowls	Partira, Ayios Nikolaos
Rounded bowls with rim projections	Eileithyia, Partira, Levena
Suspension pots/ pyxis with cylindrical lids	Eileithyia, Partira, Levena, Ayios Nikolaos
Cylindrical cups	Partira, Grymani
Spouted cylindrical pots	Ayios Nikolaos
Ladles/ spoons	Mochlos, Ellenes Amariou

Rounded bowls: (Vol. II, figs. 31-32) These are simple open rounded bowls with lightly rounded base. They have a small horizontal and vertically perforated triangular or rounded lug, of flat cross-section, under the rim. They are very popular at Partira (Vol. II, App. V, Table 1) and have two occurrences from Ayios Nikolaos (Vol. II, App. XII, Table 1). One Partira bowl stands on a ring base with holes on it (Vol. II, fig. 31: 1) and another one has a low triangular and perforated projection on the rim (Vol. II, fig. 31: 3), which establishes a link with the next type of bowl.

Rounded bowls with rim projections: (Vol. II, figs. 29, 30: 1-2, 33-34) These are open rounded bowls with a pair of horn-like projections on the rim. They have a small number of occurrences from Eileithyia cave Group B (Vol. II, App. IV, Table 2), Partira rock-shelter (Vol. II, App. V, Table 1) and Levena-Yerokampos II tomb (Vol. II, App. X, C, p. 112). There also is an isolated occurrence of a similar bowl from Mitropolis Gortinas settlement (Vol. II, App. VI, E; fig. 37: 18). The standard type of rim projections is a pair of parallel, high, triangular and flat protuberances (Vol. II, figs. 30: 1-2, 33: 3, 34). One Eileithyia bowl has a pair of projections of circular cross-section, which start from the same point on the rim (Vol. II, fig. 29: 1). Less popular are one or two pairs of low triangular or circular flat projections (Vol. II, fig. 33: 1-2, 29: 2). Finally, these bowls often have a small triangular horizontal and

vertically perforated lug, under the projections, and occasionally a big ribbon handle (Vol. II, figs. 29: 1-2, 33: 3; App. X, C, p. 114).

Suspension pots/ pyxis with cylindrical lid: (Vol. II, figs. 30: 3-4, 35, 36: 1-2, 44: 1-2, 45: 25-28) These are small-sized pots with high cylindrical neck, carinated or squat body, slightly rounded base and cylindrical lid on the neck. They are known from Eileithyia cave Group B (Vol. II, App. IV, Table 2), are relatively popular at Partira (Vol. II, App. V, Table 1), quite common at Levena-Yerokampos II tomb (Vol. II, App. X, C, p. 112) and very characteristic of Ayios Nikolaos rock-shelter (Vol. II, App. XII, Table 1). There also is an isolated occurrence of this type of pot from Miamou cave (Vol. II, App. IX, E). These vases usually have small horizontal and vertically perforated triangular lugs, slightly raised upwards, on the body and the lid (Vol. II, figs. 30: 4, 35: 1-4, 44: 2, 45: 25, 27). Two suspension pots/ pyxis from Levena-Yerokampos II have similar but bigger and considerably raised lugs (Vol. II, fig. 44: 1). In a few cases, there are small vertical and horizontally perforated lugs (Vol. II, figs. 30: 3, 36: 1). One Ayios Nikolaos pot has flaring rim with two pairs of holes on it (Vol. II, fig. 45: 28). Finally, there is a unique necked pot from Partira with globular body and two big vertical ring handles of circular cross-section (Vol. II, fig. 36: 2).

These vases are often called "suspension pots" or "pyxis", depending on the function attributed to them. In the first case, they are supposed to hang from the roof (of the cave or rock-shelter ?), suspended from the small lugs on their body. In the second one, they are seen as votive "boxes" -pyxis in Greek means box- for offerings to the Dead.

Cylindrical cups: (Vol. II, figs. 36: 3-4, 49: 6) These are small-sized cups with a big vertical ribbon handle and a pair of low triangular rim projections. They have two occurrences from Partira (Vol. II, App. V, Table 1) and another one from Grymani rock-shelter (Vol. II, App. XV, C).

Spouted cylindrical pots: (Vol. II, fig. 45: 29) There are two occurrences of this type from Ayios Nikolaos rock-shelter. They are miniature cylindrical pots with a spout and two small horizontal and vertically perforated triangular lugs, slightly raised at the top.

Ladles/ spoons: (Vol. II, figs. 45: 30-33, 75: 3-4) These are small shallow bowls with a long, solid, horizontal handle of rectangular cross-section. They are quite popular at Mochlos cemetery (Vol. II, App. XIII, C) and have two occurrences from Ellenes Amariou rock-shelter in West Crete (Vol. II, App. XXII, C).

Size: All vases of this group are small-sized. The rim diameter of bowls with or without rim projections varies between 14 cm. and 20 cm. and the height between 6 cm. and 9 cm. The height of suspension pots/ pyxis varies between 7 cm. and 13 cm., of cups is c. 10 cm. and of spouted cylindrical pots c. 5 cm. The length of ladles/ spoons varies bewteen 10 cm. and 20 cm.

2.1.1. Mochlos

The FN pottery assemblage from Mochlos (Tomb V) includes fourteen small-sized or miniature vases of various shapes, of which only ladles/ spoons are mentioned in this context (Vol. II, App. XIII, C). The reason is that only them have clear FN parallels, while the remaining have EM I parallels (Vol. II, App. XIII, D, E).

2.2. Surface treatment and decoration

All pottery is handmade, thick-walled and unevenly fired. Surface is dark grey or red monochrome lightly burnished. Levena-Yerokampos II pottery is red monochrome slipped (Vol. II, App. X, C, p. 114). Rounded bowls with or without rim projections, suspension pots/ pyxis and cylindrical cups are often scribble or pattern burnished. Decoration is applied on burnished surfaces and is always densely arranged on the pot surface. Execution is done by quick movements of the burnishing tool and consists of thin lines. As a result,

distinction between scribble and pattern burnished decoration is difficult. The overall colour contrast effect is dull, because patterns are only a little darker than the background.

Rounded bowls: Simple rounded bowls have a burnished rim band. The standard type of decoration is **dense vertical/ or diagonal parallel lines** from rim to base on the inside and outside. Occasionally, these bowls are scribble burnished or covered with net pattern (Vol. II, App. V, C, pp. 88-89). Two bowls have a reserved panel on the inside, under the lug, which is filled with a **chevron column or net pattern** (Vol. II, fig. 32: 1-2). **Bowls with rim projections** have a burnished rim and base band and are pattern burnished with dense vertical/ diagonal parallel lines. There also is a reserved panel under the rim projections on the inside and/ or the outside (Vol. II, Apps. IV, C2, pp. 83-84, V, C, pp. 88-89, X, C, p. 114). Panels are divided into vertical columns, which bear chevrons (Vol. II, figs. 30: 2, 34: 1-2). On one bowl from Partira these columns are filled with **small circles** (Vol. II, fig. 34: 3). The same bowl bears similar circles on the inside of the base. Another bowl from Partira and one from Levena-Yerokampos II have a **spiral** on the inside of the base (Vol. II, fig. 34: 1), which is formed by quick circular movements of the burnishing tool and lacks in precision and clarity.

Suspension pots/ pyxis: Suspension pots and cylindrical lids from Ayios Nikolaos are not decorated (Vol. II, App. XII, C, p. 126). Those from Eileithyia cave Group B, Partira rock-shelter and Levena-Yerokampos II tomb are pattern burnished with dense vertical lines on the neck and lid. (Vol. II, Apps. IV, C2, pp. 83-84, V, C, p. 89, X, C, pp. 114-115). The body is densely covered with similar lines or net pattern or chevron columns or vertical **zig-zags** (Vol. II, figs. 30: 4, 35: 2-3).

Cylindrical cups: These vases are pattern burnished. They have a burnished rim band and dense vertical and parallel lines on the body (Vol. II, fig. 36: 4).

3. Typology and function interaction

"Partira" vases were probably used as grave-goods. A rather large assemblage of these vases was found in a burial deposit on the floor of the Levena-Yerokampos II tomb (Ch. II, 4.1). Partira and Ayios Nikolaos rock-shelters and, to a lesser extent, Grymani rock-shelter were characterised by thin top soil deposits, which included small FN "Partira" assemblages, and were probably used as burial places (Ch. II, 7.1, 7.2, 7.3). The typological homogeneity, the small size range and the limited shape repertoire also indicate a specialised function for this pottery group. Finally, "Partira" rounded bowls with horn-like rim projections and suspension pots/ pyxis with horn-like lugs have a symbolic character consistent with their function as grave-goods (4.1).

4. Relative chronology

The comparative study of each assemblage of the "Partira" group in the appendices is confined to the identification of parallels among them (Vol. II, Apps. IV, C2a, V, D, X, D, XII, D, XIII, d, XV, C). The definition of relative chronology depends on the presence/ absence of links with FN Knossos and Phaistos and the other FN sites of the island (Ch. X) or with EM I pottery.

4.1. The typological character of the "Partira" group

The "Partira" shape range does not find exact parallels at any FN or EM I site. It forms a quite distinct and "unique" group with clear marks of specialisation. However, the basic form of all shapes is simple and has parallels from FN Knossos and Phaistos. Specialisation is achieved by the application of additional features. Decoration provides further evidence for the relative chronology of this group.

Open rounded bowls (Vol. II, fig. 31: 2) are popular at FN Knossos and Phaistos (Vol. II, figs. 4: 4-5, 15: 1). **Suspension pots/ pyxis** (Vol. II, fig. 35: 2-3) are small-sized, high-necked jars,

which are common at these sites too (Vol. II, figs. 4: 37, 19: 2). The carinated or squat form of the body of these pots is typical of FN necked jars, while EM I necked pots have rounded body. The pot with globular body and big ring handles from Partira (Vol. II, fig. 36: 2) looks more like an EM I amphoriskos (Vol. II, fig. 44: 8). **Cylindrical lids** on suspension pots (Vol. II, fig. 30: 4) have a parallel from Phaistos (Vol. II, fig. 23: 15). **Cylindrical cups** occur at Knossos and Phaistos (Vol. II, figs. 8: 1, 19: 8), but the "Partira" group ones (Vol. II, fig. 36: 3) find closer parallels in EM I Levena-Yerokampos II tomb (Vol. II, App. X, E; fig. 44: 4-5). **Spouted cylindrical pots** (Vol. II, fig. 45: 29) have no exact parallels, but are reminiscent, with regard to the position of the spout, of large-sized spouted vessels from MN Knossos (Evans J.D., 1964, fig. 43: 2). **Ladles/ spoons** with long, solid handle (Vol. II, figs. 45: 30-33, 75: 3-4) are known from Knossos and Phaistos (Vol. II, figs. 5: 7-8, 10: 19, 20: 10-11).

More diagnostic for the definition of the date of the "Partira" group are certain specialised traits, namely, rim projections, horizontal and vertically perforated lugs and ring bases, which occur among the EM I-like types from FN Knossos and Phaistos too (Ch. VIII, 4.1).

Rim projections: The application of pairs of triangular rim projections is typical of "Partira" rounded bowls and cylindrical cups (Vol. II, figs. 29, 30: 1-2, 33-34, 36: 3-4, 49: 6). Triangular ears/ handles on bowl rims are also characteristic of the FN West Cretan sites of Koumarospilio cave and Nerokourou settlement (Ch. X, 6.2.1; Vol. II, figs. 73: 6, 80: 7). The difference is that "Partira" rim projections and especially the high ones seem to have a symbolic character and recall pairs of horns. This is clearly demonstrated by the arrangement and the circular cross-section of rim projections on a bowl from Eileithyia cave Group B (Vol. II, fig. 29: 1). The symbolic character of these attributes is reciprocated from FN Knossos and Phaistos in the form of zoomorphic/ anthropomorphic lugs on bowl rims, which belong to the rare EM I-like types known from

these sites (Ch. VIII, 4.1). Finally, high or low rim projections have no EM I parallels.

Horizontal and vertically perforated lugs: These lugs belong to the group of rare EM I-like types from FN Knossos and Phaistos and other FN sites (Ch. X, 6.2). They are quite common on "Partira" bowls with or without rim projections, suspension pots/ pyxis and cylindrical spouted pots. However, "Partira" lugs have a specific morphology, unparalleled from other FN or EM I sites. The standard type is small flat and triangular lugs (Vol. II, figs. 35: 1, 34: 2, 35: 1-3), which are often raised upwards and look like triangular projections comparable to those on "Partira" bowls (Vol. II, figs. 30: 4, 44: 2, 45: 25). They probably have a symbolic character, as the suspension pot/ pyxis with big lugs from Levena-Yerokampos II tomb clearly illustrates (Vol. II, fig. 44: 1).

Ring bases: This type of base makes a single appearance on a rounded bowl from Partira rock-shelter (Vol. II, fig. 31: 1).

4.1.1. Decoration

Scribble and pattern burnishing is quite common on "Partira" bowls, suspension pots and cylindrical cups, but has a limited popularity at FN Knossos and Phaistos (Vol. II, Apps. II, Table 11, III, Table 8). Moreover, decoration is vertically arranged on "Partira" vases and not horizontally as at the other two sites (Vol. II, fig. 26: 15), while the field division on bowls with rim projections is unparalleled from any other FN group of pottery (Vol. II, fig. 34). A further difference is that the "Partira" pattern repertoire is richer and includes, zig-zags, chevrons, small circles and spirals (Vol. II, figs. 30, 32, 34-35, 36: 4). On the other hand, there are similarities to FN Knossos and Phaistos. Zig-zags and chevrons belong to the group of rare EM I-like types known from these sites (Ch. VIII, 4.1; Vol. II, figs. 14: 5, 8, 24: 8, 25: 15-16, 26: 12-14) and scribble/ pattern burnished decoration is applied on

burnished surfaces and is carelessly executed as at Knossos and Phaistos (Vol. II, Apps. II, C6, p. 58, III, C, p. 76).

"Partira" decoration has closer affinities with EM I Pyrgos ware, which is dark grey pattern burnished. Dense style in syntax is the norm for Pyrgos ware and the "Partira" group. Zig-zags and chevrons are quite popular on Pyrgos vases and reserved vertical panels are also formed (Renfrew, 1972, fig. 6.1). However, the "Partira" patterns of small circles and spiral are not used on Pyrgos ware. A further difference is that decoration on Pyrgos pottery is carefully executed (Betancourt, 1985, 27), while it is often difficult to tell pattern from scribble burnished decoration on "Partira" vases (2.2). Even elaborate patterns, such as zig-zags and chevrons (Vol. II, figs. 34-35) give the same impression of quick and careless execution. Finally, "Partira" decoration is applied on an already burnished surface creating a mild colour contrast effect as opposed to the sharper contrast produced on Pyrgos ware vases, where the background is unburnished (Mortzos, 1972, 398).

4.2. Definition of chronology

The "Partira" group has typological affinities with FN Knossos and Phaistos and with EM I Pyrgos ware. On one hand, it has firm FN links, such as, the symbolic character of horn-like rim projections, horizontal and vertically perforated lugs, ring bases and the patterns of zig-zags and chevrons. These features can be found among the rare EM I-like types of FN Knossos and Phaistos, but have become quite popular in the "Partira" group (Ch. VIII, 4.1). Moreover, the body shape of suspension pots and ladles with long solid handle have close FN parallels. On the other hand, pattern burnished decoration is stylistically very close to EM I Pyrgos ware, but it presents certain differences from it, such as, quick and careless manner of execution and application of decoration on an already burnished surface, which bring it closer to FN Knossos and Phaistos (4.1.1). It is, then, reasonable to suggest that the "Partira" group defines a N/EM I transitional or else FN phase, just before the EM I.

Certain "Partira" traits illustrate the transitional character of this group better than others. Bowls with horn-like rim projections, suspension pots with lugs looking like projections (Vol. II, figs. 29: 1, 34, 44: 1, 45: 25) and cylindrical spouted pots (Vol. II, fig. 45: 29) have no FN or EM I parallels. There also is a certain lack of standardisation in handle/ lug typology. Bowls have either small horizontal and vertically perforated lugs or big ribbon/ ring handles (Vol. II, fig. 33), while suspension pots have either small horizontally or vertically perforated lugs (Vol. II, figs. 35, 36: 1). One suspension pot from Partira rock-shelter has big ring handles of circular cross-section (Vol. II, fig. 36: 2).

More evidence on the transitional character of the "Partira" group comes from the symbolic character of this group. The application of horn-like rim projections and of raised horizontal and vertically perforated lugs (4.1) has a symbolic purpose, which is related to the function of these vases as grave-goods (3). The occurrence of "symbolic" vases is not known from other FN sites, while they are quite common among the EM I pottery from Levena-Yerokampos II tomb (Vol. II, App. X, E; fig. 44: 3, 18-20). However, "Partira" "symbolic" typology is much simpler and less elaborate than that of the EM I.

There are several reasons indicating that this transitional phase was probably short and came just before the EM I and within the FN horizon of FN of Crete. FN Knossos and Phaistos include transitional elements, such as, experimentation with new and quicker to execute decorative techniques and introduction of new EM I-like types (Ch. VIII, 4, 4.1). "Partira" pattern burnished decoration belongs to the new decorative types of the two main sites. Nevertheless, the absence of any traditionally neolithic types of decoration (i.e. incised, impressed) from the "Partira" group indicates that it may belong to the last stages of the FN of Knossos and Phaistos. Finally, the stratigraphic evidence from Levena-Yerokampos II tomb confirms this chronology. The FN floor deposit from this tomb was thin and was stratified below a large EM I stratum (Ch. II, 4.1).

It is evident that the "Partira" group falls within the FN horizon of Knossos and Phaistos. In this way, it does not "hang" between FN and EM I Pyrgos ware, representing only a stylistic phase. At any rate, its limited shape and size range and specialised function cannot define a complete cultural phase, since it does not have any obvious equivalent in domestic ware from settlement sites. What is really new about the "Partira" group is the introduction of "sepulchral" pottery, which becomes more elaborate and standardised in the EM I period. Because this is a totally new development for FN Crete, it is not easy to pinpoint the date of monochrome undecorated "symbolic" objects from uncertain stratigraphic context. This difficulty is very apparent in the case of the FN deposit from Tomb V of the Mochlos cemetery. A pair of "horns of consecration" or boat (Vol. II, fig. 45: 34) from this deposit could well belong to the "Partira" group, if one compares it to the pairs of horn-like projections on bowls of this group (Vol. II, App. XIII, C, D, G).

5. Conclusions

The "Partira" group is very homogeneous and is characterised by a limited shape and size range. It is widely distributed in North-Central, South and East Crete, but it is absent from West Crete. "Partira" vases have a symbolic character, which is related to their function as grave-goods. Finally, this group belongs to a short N/ EM I transitional or else FN phase just before the EM I period.

CHAPTER XIII

NEOLITHIC CULTURAL AFFINITIES AND CHRONOLOGY

1. Introduction

Neolithic Crete kept aloof from Mainland Greece and the Aegean and developed its own unmistakable cultural identity. Contacts with these areas were considerably intensified during the course of LN II and FN, but did not much affect the Cretan neolithic tradition and character. Pottery typology is the most sensitive indicator of cultural affinities. This chapter deals with the extent of these contacts and their significance for the establishment of Aegean relative chronology.

2. EN I to MN background

Knossos represents the best EN to MN pottery typology from Crete (Vol. II, App. I, C). As it has been demonstrated in a different chapter (Ch. III, 2), the Knossian assemblage is characterised by an internal process of evolution without showing any significant marks of innovation through the introduction of new types from outside the island. On the other hand, in EN I, when pottery makes its first appearance at Knossos, pot making technology is relatively advanced and indicates that it was brought to the island from somewhere else.

J.D. Evans (1968, 271-275) discusses the subject of EN I to MN Knossos cultural affinities and identifies a small number of specialised pottery links. These are: trumpet lugs, flap and wishbone handles, triangular ears on bowl rims, plastic cordon decoration, pointillé decoration and bowls with internally thickened rim. The distribution of these traits is sporadic and rather undiagnostic, since it extends over a wide area from Troy to Cyprus and Cilicia. At the same time, it presents a more consistent pattern of affinities with certain Aegean sites, such as Saliagos in Antiparos (Evans J.D and Renfrew, 1968), Tigani in Samos, Kalymnos, Ayio Gala in Chios

(Furness, 1956), Poliochni in Lemnos (Bernabò Brea, 1964) and Thermi in Lesbos (Lamb, 1936).

The same author considers as the most probable place of origin for the Cretan Neolithic the West Anatolian coast (Evans J.D., 1968, 274). At this point, becomes apparent a major problem with regard to the correlation of all these areas in terms of relative chronology. First of all, there are no EN/ MN sites from West Anatolia, but all links are established through comparisons with EBA I sites from the Troad, the most important of which is Troy I (Blegen et. al., 1950). Kum Tepe I, also in the Troad, is about 200 years earlier than Troy I, but does not show closer affinities with the Neolithic in the Aegean (Sperling, 1976, 355-358). Moreover, the earliest occupation levels from Poliochni (black and blue cities) in Lemnos and Thermi in Lesbos belong to the same cultural tradition and horizon as Troy I (Renfrew, 1972, 72, 122-127). A large chronological gap also exists between EN I to MN Crete and Samos, Kalymnos and Chios, which are placed in the LN/ FN period in Aegean terms (Renfrew, 1972, 72) and belong to the tradition of West Anatolia (Furness, 1956, 203). Finally, Saliagos is closer to Crete, since it corresponds to the MN to LN period of Greece, but its pottery assemblage cannot be related closely to any other site (Evans J.D. and Renfrew, 1968, 81-84, 88-91).

On the other hand, Hood (1981, 716-719, 725), in the full publication of the two neolithic sites of Emporio and Ayio Gala from Chios, presents a different reconstruction of Aegean relative chronology. He makes the point that Emporio X-VIII could belong to the EN horizon of Creece. The earliest traces of occupation at Tigani in Samos and in the Troad may go back to the same horizon, on the basis of Emporio X-VIII comparative study. He also proposes an earlier date (EN/ MN) for Saliagos. The earliest occupation of Ayio Gala, the other neolithic site from Chios, may correspond to Emporio X-VIII, but the bulk of its sequence belongs to the earlier phase of Troy I (Hood, 1981, 73-81).

It is obvious that West Anatolia and the East Aegean islands, which have cultural affinities with Crete, are not characterised by firm chronological sequences. All correlations are based on typological grounds, since most of these sites neither had clear stratigraphies nor produced full series of C14 dates. Moreover, the pottery typology from all these areas is rather monotonous and undiagnostic as to specialised traits. The existing gaps, if one does not accept Hood's revision of relative chronology, may be explained by the possible occurrence of pre-Troy I long neolithic sequences in West Anatolia, which have not yet been found, but could have been the cultural predecessors of Troy I.

In general, Crete, the Aegean and West Anatolia share the same type of monochrome burnished ware and seem to derive from a common background. At the same time, each region or even each site has a different typological character, with regard to the quantitative and stylistic composition of each assemblage. More precisely, different shapes, handles/ lugs and types of decoration prevail at each one of them. As mentioned in the beginning of this section, the number of specialised links is small, indicating that the pattern of contacts across the Aegean was not consistent during the EN I to MN span, leaving room for individual pottery traditions to develop.

Before the reconstruction of a detailed chronological framework for Mainland Greece, the Aegean and West Anatolia, it is not safe to look for close affinities between these regions. Washburn (1983, 141-148) however, argued for specific links between EN II/ MN Knossos and Saliagos, based exclusively on what she terms "symmetry analysis" of the decorative patterns on pottery. She confined her comparative material to the incised and pointillé ware from Knossos and the white-painted pottery from Saliagos. She then identified nineteen designs (A-T) from Knossos, which overlap with six (A-F) of the designs from Saliagos (Washburn, 1983, figs. 9.4 and 9.7). By confining, though, her Knossos sample to incised and pointillé ware, she left out all quantitative and stylistic differences between the two assemblages (Vol. II, App. I, C and Evans J.D. and Renfrew, 1968,

34-46). She also ignored the relative frequency of occurrence of the overlapping patterns in each site, which is a more meaningful factor than their mere existence in the assemblage. It is all the more important in this case, since the designs themselves are too simple to be very significant on their own. In her concluding remarks, she proposes an EN II date, in Knossian terms, for Saliagos and observes a marked increase in contacts during this period between the two sites (Washburn, 1983, 144-146).

As evidence for her conclusion that Knossos was opened up to Aegean contacts in EN II rather than MN (as she claims that J.D. Evans contends), the results of her symmetry analysis seem very weak. In fact, however, they were anticipated by J.D. Evans on other grounds (1971, 109, note 2), though she failed to recognise this. Evans cites the appearance of clay spinning and weaving equipment and the first introduction of three of the rarer shapes, namely fruitstands and chalices, spouted vessels and vessels with concave walls "near the end of the EN II period". He sees this as the beginning of "significant acceleration in the rate of change ... almost cetrainly to be correlated with a gradual increase in contact with other parts of the Aegean" (Evans J.D., 1971, 109).

Be this as it may, it is evident that Knossos all along followed its own course of development in relative isolation and contacts with the Aegean did not greatly affect the strong local pottery tradition (Evans J.D., 1971, 114-115). The few existing typological parallels with material outside Crete are much weaker than the internal coherence of each assemblage. In fact, Knossos is a remarkable case for the Aegean, because it is characterised by a firm EN I to MN stratigraphic sequence and a homogeneous pottery assemblage right through (Vol. II, App. I, B; Ch. III, 1). The number of new types introduced during this span is small. More importantly, the Knossian assemblage shows an ability for innovation from within, as the introduction in EN II of a major trait, namely ripple burnished decoration, indicates, since this type has no parallels outside Crete (Ch. III, 2.3).

Nevertheless, there is strong evidence against an indigenous evolution of neolithic culture on the island of Crete. As already mentioned, Knossos pottery technology was relatively advanced right from the beginning, while the comparative study of pottery has shown that it must originate from West Anatolia, despite the chronological gap. This impression is also reciprocated from the evidence on the origins of agriculture in Crete (Broodbank and Strasser, 1991, 236-237). Knossos practised a mixed agricultural ecomony right from the Aceramic period (stratum X). All faunal and floral data indicate that a domesticated "package" of animal and plant species was brought to the island by the first settlers.

In conclusion, Crete was colonised in a very early stage, which corresponds to the Aceramic of Knossos, about 6000 B.C (Evans J.D., 1964, 272), and, afterwards, kept aloof from the rest of Aegean. This is not surprising, considering that no other Aegean island was inhabited at such an early date and all evidence indicates that their systematic exploitation started in the LN/ FN period (Sampson, 1984, 224). Even Emporio X-VIII in Chios, where occupation may have begun in the EN, is a rather isolated instance. However, contacts with the Aegean were certainly taking place, since obsidian from Melos was used as raw material for the manufacture of tools during the whole of the Knossian sequence (Evans J.D., 1971, 115).

3. LN/ FN Crete and the Aegean

LN/ FN Crete (Chs. VIII, X) appears to have a closer relation with the Aegean than in the previous periods, but the local pottery tradition is still very strong. A bigger number of specialised traits find parallels in the Aegean and the Troad. Quite a few of these traits belong to the group of rare EM I-like types known from Knossos and Phaistos (Ch. VIII, 4.1) and from other Cretan sites (Ch. X, 6.3.1, 6.3.2).

Bowls with incurved rim: This type of bowl is characteristic of pottery assemblages from West Crete and makes rare appearances at LN/ FN Knossos and FN Phaistos (Ch. X, 6.2.1; Vol. II, figs. 68: 1, 72: 1, 10: 12, 15: 4). Similar bowls are common at Troy I and the East Aegean islands (Furness, 1956, 203).

Fruitstands/ chalices: These shapes are more specialised and diagnostic than the previous one. They make rare appearances at LN/ FN Knossos and FN Phaistos as well as at a few more LN/ FN sites of Crete (Ch. X, 6.3.1; Vol. II, figs. 42: 2, 71: 7-8, 73: 9, 81: 3, 10: 15-17, 20: 3-9). Similar vases were also present among the rarer shapes of EN II Knossos, but dropped out of fashion afterwards (Vol. II, App. I, Table, 3). Fruitstands seem to be popular at MN/ LN Saliagos (Evans J.D. and Renfrew, 1968, 38), at Poliochni (black city; Bernabò Brea, 1964, Pl. I: a, b) and at Troy I (Blegen et. al., 1950, fig. 262: 20-28). They are less common in the later part of the Emporio (VI-I) sequence (Hood, 1981, 219, fig. 110) and at FN Kephala in Keos, where low-footed bowls occur too (Coleman, 1977, Pls. 30: G, 165, 28: 104).

Jugs: Spoutless jugs belong to the rarer shapes of FN Phaistos (Vol. II, fig. 19: 11) and have a small number of occurrences from Kastelli Phournis well, Lera cave and Nerokourou settlement (Ch. X, 6.3.1; Vol. II, figs. 60: 1-2, 61: 1-2, 68: 19-21, 79: 1). The Kastelli Phournis and Nerokourou examples often have a big angular handle rising above the rim. Spoutless jugs with or without such handle are popular at Troy I (Blegen et. al, 1950, fig. 223a: B2-B3) and at Emporio X-VIII as well as VII-VI (Hood, 1981, 185-188, fig. 99: 20). However, there is no close resemblance between the Cretan types and those from the other sites. **Raised angular handles** are also known from Emporio IX (Hood, 1981, fig. 121: 93), LN Tigani in Samos (Felsch, 1988, Pl. 76: F19) and from Troy I (Blegen et. al., 1950, fig. 129: A36). **Spouted jugs** are extremely rare and occur only at FN Knossos and Phaistos (Ch. VII, 4; Vol. II, figs. 14: 3-4). With the exception of one Phaistos jug (Vol. II, fig. 19: 15), which looks

somewhat like one from Troy II (Blegen et. al., 1950, fig. 412: 34), they do not have close parallels outside Crete.

Ladles/ spoons: Spoons with a long solid handle are present in small numbers at LN/ FN Knossos and FN Phaistos and at a few more FN Cretan sites (Chs. VII, 4, XII, 2.1; Vol. II, figs. 5: 7-8, 10: 19, 20: 10-11, 45: 30-33, 75: 3-4). Spoons with similar handle are quite popular across the Emporio sequence (IX-II) in Chios and at other Aegean islands, such as, Kos, Samos, Lemnos and Lesbos (Hood, 1981, 623-626, fig. 283). The difference is that the Cretan examples are often more elegant.

Baking pans or cheese pots: This type of pot is quite popular at the FN settlement of Nerokourou in Crete (Ch. X, 6.3.2; Vol. II, fig. 77: 6-8). These vases usually have a row of holes under the rim, but the Nerokourou examples are provided with a handle on the inside. Rim fragments with holes are also known from Koumarospilio cave (Vol. II, fig. 73: 8). Outside Crete, this shape is typical of the LN/ FN in the Aegean and is characterised by a wide typological range in the Dodecanese (Sampson, 1984, 242-243, fig. 4). The Cretan variety with a handle on the inside finds close parallels at Emporio X-VIII (Hood, 1981, 205).

Tab/ horned handles: Pairs of solid triangular **tab handles** are characteristic of FN Nerokourou and their closest parallels are triangular or circular ears on bowl rims from other Cretan sites (Ch. X, 6.2.1; Vol. II, figs. 80: 7 and 11: 22, 23: 8, 69: 3, 72: 1, 73: 6). Triangular ears on bowl rims were also present in EN I Knossos, but died out afterwards (Vol. II, App. I, Table 4). Solid rectangular and triangular tab handles are present in the earlier part (X-VI) of the Emporio sequence (Hood, 1981, fig. 105: 8-11, 23), at MN/ LN Saliagos (Evans J.D. and Renfrew, 1968, fig. 58: 3-10) and at LN/ FN Tigani in Samos (Furness, 1956, fig. 9). **Ribbon and angular handles with a prong** are typical of LN/ FN Knossos and FN Phaistos, although they are not popular (Ch. VII, 7; Vol. II, figs. 11: 8, 16: 2, 20: 28). Similar handles with a plastic dot are also known from FN

Kastelli Phournis well (Vol. II, fig. 56). They all find close parallels in horned handles from LN/ FN Tigani in Samos and Kalymnos (Furness, 1956, fig. 6: 74, Pl. XVIII: 5-7) and from LN/ FN Grotta in Naxos (Hadjianastasiou, 1988, fig. 2: 12).

"Plaited" handles: This type of handle is known only from FN Phaistos, where it makes occasional appearances on necked jars (Ch. VII, 7; Vol. II, fig. 22: 11-12). Its closest parallels are twisted handles from Emporio X-VIII (Hood, 1981, fig. 103: 6).

Zoomorphic/ anthropomorphic lugs: Such lugs are extremely rare at FN Knossos and Phaistos, while frontal human faces are characteristic of the FN cave of Trapeza in Crete (Ch. X, 6.3.1; Vol. II, figs. 11: 19-21, 23: 7, 29, 47: 3-4, 49: 5). The Trapeza examples have a close parallel from Troy I (Blegen et. al., 1950, fig. 131b: C30). Otherwise, animal heads are rarely used on handles from Emporio X-VI (Hood, 1981, fig. 105: 13-16).

Slashed rims: These are characteristic of FN Knossos and Phaistos (Ch. VII, 3; Vol. II, figs. 14: 1, 24: 4), while they are also known from FN Kastellos Tzermiadon settlement (Vol. II, fig. 50: 8-9). They find close parallels at LN/ FN Grotta in Naxos (Hadjianastasiou, 1988, fig. 4: 8) and at FN Kephala in Keos (Coleman, 1977, Pl. 32: A).

Ring bases: Ring bases become popular in LN/ FN Knossos and FN Phaistos (Ch. VII, 9; Vol. II, figs. 12: 4, 23: 17-22) and make a single appearance at FN Eileithyia cave (Ch. X, 6.3.1). They were also present in EN II Knossos (Vol. II, App. I, C, p. 19). Similar bases are common in the later part (V-I) of the Emporio sequence (Hood, 1981, fig. 109: 3-4) and at FN Kephala in Keos (Coleman, 1977, Pl. 28: 104). On the other hand, ring bases are extremely rare at Saliagos (Evans J.D. and Renfrew, 1968, 38).

Seam patterns: This group of incised patterns is typical of LN and more so of FN Knossos, but they are not common at FN Phaistos (Ch. VII, 11: incised/ grooved decoration; Vol. II, figs. 13: 6-11, 24: 19-21). Similar patterns are also characteristic of various FN assemblages from West Crete (Ch. X, 6.2.1; Vol. II, figs. 73: 1, 81: 16). Outside Crete, they occur at Emporio X-VIII (Hood, 1981, 229, fig. 111: 13) and at LN/ FN Kalymnos (Furness, 1956, Pl. XX: 3).

Zig-zags/ chevrons: Single incised zig-zags and chevrons are occasionally used at FN Knossos and Phaistos, but are more typical of the latter (Ch. VII, 12; Vol. II, figs. 14: 5-6, 8, 25: 13-15). Bands of multiple zig-zags and chevrons are typical of FN Nerokourou settlement and Gerani cave in West Crete and make a single appearance at FN Skaphidia cave in East Crete (Ch. X, 6.3.1; Vol. II, 50: 3, 66: 5, 67: 1, 79: 4, 81: 5-10). Incised and pointillé zig-zags were an EN I and EN II hallmark at Knossos, but they fell out of fashion afterwards (Vol. II, App. I, C, p. 22). Incised multiple zig-zags and chevrons, quite similar to the West Cretan examples, occur at a number of Aegean sites, such as, the later part (V-IV) of the Emporio sequence in Chios (Hood, 1981, fig. 114: 1-6), LN/ FN Tigani in Samos and Kalymnos (Furness, 1956, figs. 2, 10: 16, Pl. XX: 8), LN/ FN Kitsos cave in Attica (Lambert, 1981, fig. 178), LN/ FN Kephala in Keos (Coleman, 1977, Pl. 44) and Troy I (Blegen et. al., 1950, fig. 249: 31). They are also common in pattern burnished and white painted ware from various Aegean sites, dealt with further below.

Pattern burnished decoration: This type of decoration has a limited popularity at LN II/ FN Knossos and FN Phaistos (Ch. VII, 11; Vol. II, figs. 13: 12-13, 26: 15). It is also used on a FN bowl from Ellenes Amariou cave in West Crete (Ch. X, 5.4; Vol. II, fig. 75: 1). In all these cases, pattern burnishing is applied on a burnished background and patterns consist of vertical parallel bands or hatched bands arranged in open style. On the other hand, a distinctive group of FN pottery from Crete (i.e. the "Partira" group) is very often pattern burnished (on burnished background) in a totally different style. Quick and thin lines densely cover the pot surface and form

reserved panels filled with multiple chevrons or zig-zags and net pattern (Ch. XII, 2.2; Vol. II, figs. 30, 32, 34-35).

The technique of pattern burnishing is widespread in the Aegean, but pattern repertoires and types of syntax differ considerably from area to area. These differences indicate the presence of various regional styles rather than the development of unity (Renfrew, 1972, 77). Nevertheless, close similarities can be observed between pattern burnished ware from Emporio in Chios and Tigani in Samos. At Emporio, this decoration is never popular. It is characteristic of Period VIII, when multiple chevrons appear on bowl rims, continues to be present at Emporio VII-VI and acquires a distinctive style in Period II. Emporio VIII has similarities with LN Tigani (Hood, 1981, 221-225), where patterns include multiple zig-zags, net pattern and hatched triangles (Furness, 1956, 187, fig. 6: 67-68, 71-72. Pl. XVII). Chevrons are also present at MN/ LN Saliagos, but pattern burnished decoration is only rarely used there (Evans J.D. and Renfrew, 1968, 44, fig. 56: 16). On the contrary, this decoration is very much at home and has a distinctive style at FN Kephala in Keos. As opposed to the previous sites, patterns cover densely the pot surface and consist of diagonal parallel lines randomly drawn, without regard to symmetry (Coleman, 1977, 11-12, Pls. 40-43, 86-88). In all these cases, decoration is applied on smoothed or unburnished surfaces.

Pattern burnished decoration was also popular in the Late Chalcolithic of West Anatolia. Emporio and Tigani in East Aegean show a close similarity to Besika Tepe (Renfrew, 1972, 77), while the Kephala style presents only general affinities with this area and the Troad (Coleman, 1977, 107). Finally, a detailed study of the distribution and the various regional groups of pattern burnishing in Anatolia, the Aegean and Mainland Greece appears in Hood's 1981 (221-225) publication of Neolithic Chios.

It is obvious that the LN/ FN Cretan examples from Knossos, Phaistos and Ellenes Amariou have no close parallels from the Aegean. This is also emphasised in the publications of the sites mentioned in the above comparative study (Hood, 1981, 222; Coleman, 1977, 108). However, the "Partira" group resembles the Kephala style as to syntax and Emporio VIII and Tigani as to pattern repertoire. The difference is that decoration is applied on burnished surfaces in Crete.

Incrustation/ Painted decoration: This type of decoration has a limited popularity at FN Knossos and is more characteristic of FN Phaistos (Ch. VII, 11). Red ochre incrustation is more popular at Phaistos as opposed to white paste at Knossos. A further difference is that Phaistos has a richer pattern repertoire that includes hatched bands, zig-zags, rows of diamonds and triangles (Vol. II, fig. 26: 8-14). Orange incrusted band decoration is also used on a vase from Kastelli Phournis (Ch. X, 4.2; Vol. II, Pl. 12).

The closest Aegean parallel for incrustration from Crete is white and occasionally red painted decoration. Painted ware is widespread in the Cyclades and the Dodecanese and less so in the East Aegean islands. White painted decoration flourished at Emporio (VII-VI) and the main pattern was multiple chevrons (Hood, 1981, 225-227). Chevrons and triangles are often used at Tigani in Samos, which shows a close resemblance to Emporio (Furness, 1956, 185, fig. 6: 69). The same patterns of multiple chevrons and zig-zags are popular in various LN/ FN assemblages from Rhodes and other islands of the Dodecanese, such as, Kalimnos and Kos (Sampson, 1984, figs. 1-3; Furness, 1956, 190). White painted ware was a chief hallmark of MN/ LN Saliagos in the Cyclades (Evans J.D. and Renfrew, 1968, 40-42, figs. 31-32, 41, 48-55, 56: 1-7, Pls. XX-XXI). Saliagos pattern repertoire is the richest in the Aegean and includes: ladders, zig-zags, rows of triangles, lozenges, squares and concentric arcs. Also at Saliagos, rectilinear and curvilinear motifs as well as white and red paint are freely combined on the same vase. White painted decoration is popular at LN/ FN Grotta in Naxos, but it is plainer than at Saliagos (Hadjianastasiou, 1988, 17, fig. 3: 1-7). Grotta

patterns consist of close-set simple diagonal parallel bands reminiscent of LN/ FN Kephala pattern burnished decoration, although white painted ware is absent from there (Coleman, 1977, 107, Pls. 40-43, 86-88).

White painted decoration does not seem to have taken root in Late Chalcolithic Anatolia or in the Troad (Hood, 1981, 226). This trend is consistent with the rather small popularity of this decoration at Emporio in Chios and Tigani in Samos, which have closer affinities with Anatolia than the Cyclades and the Dodecanese. The Cretan incrustation from Phaistos has certain similarities with Saliagos as to pattern repertoire and the combination of colours white and red on the same vase (Ch. VII, 11). At the same time, Crete -with the exception of Knossos- shows a preference for colour red and not for white as in the Aegean. Finally, the open style in syntax, the absence of curvilinear patterns and the lack of combination of different patterns on the same vase differentiate Crete from Saliagos and the Aegean.

4. LN/ FN chronology and interpretation

The correlation, in terms of relative chronology, of LN/ FN Crete with the Aegean presents the same kind of problems as the earlier periods of the Neolithic (2). The lack of a firm framework for the definition of Aegean chronology causes a certain confusion about the position of each geographical unit. As already mentioned, both high and low dates have been suggested for Emporio in Chios, Tigani in Samos and Saliagos.

Hood (1981, 716-725), reconstructed, on purely typological grounds, an EN to EBA sequence from Emporio, according to which Emporio X-VIII must correspond to the EN and Emporio VII-VI to the MN period, in Greek Mainland terms. Furthermore, Emporio V-IV overlapped with the earlier phases of Troy I and Emporio II-I with late Troy I and Troy II. Because of the resemblance of Emporio X-VIII to Tigani, Hood suggested a high date for this site too. However, the earlier

Emporio phases and Tigani have been placed in the LN period by other researchers (Furness, 1956, 203; Renfrew, 1972, 76, Table 7.1; Sampson, 1984, 248; Felsch, 1988, 128, Table 2). At any rate, Hood's argumentation for an EN date for Emporio X-VIII is well documented; one can neither ignore the occurrence of early features there, especially in handle/ lug typology.

Saliagos, on the other hand, is a somewhat different case, since there is a coherent series of C14 dates from there, which set the duration of occupation about 4300 B.C. and 3700 B.C. This along with the typological evidence indicate a MN/ LN date for this site, as suggested by the excavators (Evans J.D. and Renfrew, 1968, 88-91). In spite of this, different dates, based on typological comparisons, have been proposed for Saliagos too. Hood (1981, 725) would rather place it in the EN/ MN period and Hadjianastasiou (1988, 18-20) in the LN/ FN.

The neolithic occupation at Kephala in Keos, at Kitsos cave in Attica, at Grotta in Naxos, and in the Dodecanese can safely be placed in the LN/ FN period, in Aegean and Greek Mainland terms (Lambert, 1981; Hadjianastasiou, 1988; Sampson, 1984). There also is a low C14 date (c. 3000 B.C.) from Kephala, but the overall picture of the typological character of pottery indicates a higher date, about 3300-3200 B.C. (Coleman, 1977, 109-110). In fact, the excavators of all these sites, in the publications quoted above, prefer to date them in the LN period. Renfrew (1972, 72), however, has introduced the term "FN" to indicate that they belong to the last stages of the Neolithic, and, from this point of view, he must be correct, although the N/ EBA transition in Greece and the Aegean is not well understood or documented.

In is obvious that there are chronological discrepancies in the correlation of LN/ FN Crete and certain Aegean sites. One reason must be the incomplete state of research and another one the occurrence of regional traditions, which derive from a common, probably West Anatolian, background (2). Nevertheless, it is possible, on the basis

of the existing evidence, to explore the factors that generate this situation. It is evident that the neolithic pottery typology of the Aegean and West Anatolia is very conservative and is characterised by a re-cycling of various handle/ lug and decoration types across these geographical areas. It is exactly for this reason that chronologies, so different from each other, have been suggested for Emporio X-VIII and Tigani and, to a lesser extent, for Saliagos.

This situation calls for a very careful study of pottery typology from each geographical unit, before the definition of relative chronology, allowing for the appearance of certain specialised traits at different periods in different areas. In other words, there must be several distribution patterns of pottery types in space and time. In consequence, the quantitative and stylistic composition of pottery assemblage is more important as chronological indicator than the mere occurrence of certain types in it. Under this light, the LN/ FN date proposed for Saliagos (Hadjianastasiou, 1988, 18-20) seems quite improbable, since it is mainly based on the presence of white painted decoration there and at LN/ FN Grotta in Naxos. Moreover, as it is also pointed out in the same publication, there are quite a few differences between the two sites with regard to pattern repertoire and syntax. Differences which, one might add, could well have chronological value.

Neolithic Crete offers a good example for the understanding of the mechanism of change in pottery typology through time. This is a big self-sufficient island, which was inhabited from Aceramic Neolithic right through to the EBA. It also kept aloof from the Aegean and Mainland Greece for most of this time (2). As a result, it is characterised by a homogeneous, coherent and conservative pottery typology, the evolution of which is based on gradual quantitative and stylistic changes within a close set of basic types (Ch. III). During the LN II and FN period, the same trend of continuity is observed through the whole of the island (Chs. VIII, X, 6). Moreover, certain new types enter the pottery assemblages of the two main sites of Knossos and Phaistos and, to a lesser extent, the whole of the island

(Chs. VIII, 4.1, X, 6.3). However, they have a small popularity and are fully adapted to the Cretan tradition. At the same time, there is a FN trend for innovation, especially in decoration, but this may derive from local improvements in pot firing technology (Chs. VI, 2.3.3, VIII, 4), since the set of types that manifest it do not find parallels anywhere else. Even pattern burnished decoration and incrustation, which may generate from contacts with the Aegean, have their own distinctive character in Crete. The strong local character and creativity of Cretan pottery is also demonstrated by the FN "Partira" group, which does not find palallels outside the island, but has close affinities with FN Crete and EM I Pyrgos ware (Ch. XII).

On the other hand, the presence of quite a number of FN types that find parallels in the Aegean (3) indicates a certain acceleration in contacts with this area. What is surprising though, is the small popularity of most of them in Crete as well as their wide Aegean distribution, that does not show any consistency in the direction of these contacts. Cretan handle and lug types have affinities with Emporio X-VIII and decoration with the Cyclades and the Dodecanese. Of particular interest are zig-zags and chevrons, which are widespread in the Aegean and provide a FN specialised link with this area.

The comparative study of LN/ FN Crete has been mainly confined to the Aegean, leaving out Mainland Greece, because links with this area are sporadic. Furthermore, LN/ FN Mainland Greece is characterised by a totally different range of decoration types and styles (Phelps, 1975), while no Cretan specialised traits find parallels there. Faure (1965, 57, note 2; 1969a, 216), however, suggests that towards the end of Neolithic (FN) there was an influx of population from the Peloponnese through Cythera and Anticythera to West Crete. Although he uses pottery typology to suport his view, he does it in a very general way. Vagnetti, in her comparative study of FN pottery from Phaistos (1972) and from Nerokourou (1989), tries to be more specific. She quotes parallels from LN/ FN Peloponnese, but most of

them refer to bowl profiles, which are too simple to provide specialised links. However, in her concluding remarks on Phaistos relative chronology (Vagnetti, 1972, 126-128), she identifies closer affinities with the Aegean. On the other hand, she places Nerokourou in the FN of Crete, but she considers its typology as somewhat remote from FN Phaistos and closer to FN Aegean and Greek Mainland prototypes (Vagnetti, 1989, 87-91). The main argument she uses is the absence from Nerokourou of red incrustation, red washed and mottled decoration, which are typical of Phaistos. Our study has shown though, that the lack of elaborate types of decoration from many sites, outside LN Knossos and Phaistos, may have to do with the predominance of coarse ware and the different function of the pottery assemblages from these sites (Ch. XI). Finally, the comparative analysis of Nerokourou pottery in this thesis has demonstrated that this site has after all close links with FN Phaistos (Ch. X, 5.6, 5.6.1; Vol. II, App. XXIII, D).

In general, the neolithic pottery tradition in Crete is characterised by a remarkable continuity right through. In the FN, which is the last phase of the Neolithic, new types, probably of Aegean origin, are introduced in small numbers, without any sign of breaking up the Cretan uniformity. On the contrary, they are fully adapted to the tradition of the island. Nevertheless, links with the Aegean have a chronological value. First, they indicate that it was as late as the FN that Crete started opening up to the outside world. Of particular importance are jugs, which become an EBA Cretan hallmark, but were extremely rare in the FN. In the Aegean, this shape is popular in the LN/ FN and in Emporio X-VIII. Second, they provide indirect evidence on relative chronology, in Anatolian terms. Most of the Aegean sites, which show similarities to Crete, and FN Crete itself, generally belong to the Late Chalcolithic tradition of Anatolia (Vagnetti, 1972, 126; Sampson, 1984, 245-249). The same picture of relative isolation of LN/ FN Crete appears in the literature (Coleman, 1977, 108, Lambert, 1981, 713; Hood, 1981, 725; Sampson, 1984). Moreover, Treuil (1970, 23-25) in his discussion of Faure's idea that the population of FN West Crete originated from the

Peloponnese, considers as more probable that it was indigenous, since there is no firm archaeoligical evidence for the opposite.

There is a tendency in the literature to attribute a cultural significance to pottery similarities or lack of them. With regard to FN Crete, as already mentioned, Faure, in a general interpretation of pottery evidence, spoke of an influx of people from Southern Greece. At the other end of the spectrum, Sampson (1984, 239) refers to the "cultural isolation" of Crete during the LN and FN, based again on the lack of close pottery affinities with the Aegean. The point is though that Crete had behind her a long neolithic tradition and cultural unity, while the Aegean started to have permanent settlements in the LN/ FN period, as Sampson himself acknowledges in the same article (1984, 224). Under this light, it is not surprising that Crete did not adopt the whole range of Aegean pottery traits, but rather followed a process of "filtering" them. Afterall, the pottery typology of each region or even each assemblage is determined, to some extent, by the economic activities carried out at each one of them (Ch. XI). In fact, there is evidence for an intensification of economic and possibly cultural contacts with the Aegean by the increase in the quantity of obsidian imported from Melos and the development of blade technology in the manufacture of obsidian tools (Evans, 1971, Pl. V; Vagnetti, 1972, fig. 127).

4.1. Absolute chronology

Although Neolithic Knossos provided us with a coherent series of C14 dates, the latest two come from LN I stratum II, while there is no such date from LN II stratum I nor from the FN deposits of West Court (Evans, 1971, 117). Knossos stratum II C14 dates are: 4485 B.C. and 4450 B.C, in calibrated years. There also is one C14 date from a mixed FN/ EM I stratigraphic context from Lendaka cave in West Crete, the calibrated form of which is 3310 B.C. (Warren, 1980, 497). No other Cretan site produced C14 dates.

It is evident that there is no direct evidence on the absolute chronology of LN II/ FN Crete. As a result, several high or low dates have been proposed for the end of Neolithic in Crete. A full revision of the relevant bibliography appears in a study by Warren (1980). This work and that of Cadogan (1983) examine very thoroughly all data on relative and absolute Cretan chronology and its correlation with the Aegean. Their conclusions are remarkably similar. Warren (1980, 497-499) suggests that FN in Crete lasted from 4000 B.C. to 3600 B.C. and Cadogan (1983, 517) from 4000 B.C. to 3300 B.C., in calibrated years.

There is no reason to question this chronological framework, but it certainly needs clarification. Warren (1980, 489) and Cadogan (1983, 508) give a very general outline of the cultural identity of FN Crete and group together Knossos stratum I, FN Phaistos and a small number of other pottery assemblages, such as Partira. Our study has demonstrated that there are finer typological divisions with chronological value within this system. First of all, stratum I belongs to the LN II horizon of Knossos and is succeeded by a FN phase there (Ch. IV, 3). Second, Knossos FN phase corresponds to FN Phaistos (Ch. VIII, 3). Third, the remaining sites of Crete are FN. Among them, Kaloi Limenes house, Kastelli Phournis well and Nerokourou settlement were occupied for a short time towards the end of the FN, while cave sites may have been used during the LN II and FN period (Ch. X, 6). Finally, the "Partira" group of pottery must define a short last phase within the FN horizon of Crete. This group is known from all geographical areas but West Crete and includes vases, which have a specialised function as grave-goods (Ch. XII, 4.2).

In conclusion, in the time span between Knossos LN I stratum II and the end of Neolithic, we can distinguish two phases: the LN II and the FN. It is not possible to estimate the exact duration of each phase, but the lower and upper limits are: 4000 B.C. to 3600 B.C. or 3300 B.C. Indirect evidence on this subject comes from the quick rate of stylistic changes in the LN II/ FN period at Knossos (Ch. IV, 3).

The tendency for change and innovation in pottery styles and decoration is more strongly felt in the FN of Knossos and Phaistos (Ch. VIII, 4). The FN "Partira" group also provides further evidence on the quick process of stylistic change (Ch. XII, 4.2). On the other hand, all these changes are only sporadically reciprocated from the other FN sites of the island, probably because of the difference in the type and function of installation between them and Knossos/ Phaistos (Ch. XI, 3).

It is evident that there is a difference in the definition of FN, since Warren and Cadogan include in it our LN II. In this context, we consider as FN a short transitional period, which is characterised by a strong trend of continuity from the LN II. It also manifests a taste for typological innovation and pot specialisation ("Pathira" group). Finally, quite a number of new types, some of Aegean origin, make their first appearance in this period and indicate a certain degree of opening up to the outside world. The duration of the FN in Crete must be 200 or 300 years, namely from 3600 B.C. or 3500 B.C. to 3300 B.C., according to Cadogan's reconstruction. A short duration is also suggested by Vagnetti (and Belli, 1978, 157-161), who uses a lower absolute chronology. As a result, the preceding 400 or 500 years (4000 B.C. to 3600 B.C. or 3500 B.C) must correspond to our LN II, according to Cadogan's framework. If, on the other hand, one uses Warren's chronology (4000 B.C. to 3600 B.C.), LN II and FN lasted for 200 years each. It is a matter of interpretation what scheme to prefer, although the latter seems a bit too short.

CHAPTER XIV

THE EM I POTTERY FROM CRETE

1. Introduction

The EM I pottery typology of Crete is relatively well known. Several general studies have appeared in the literature (Branigan, 1970a; Renfrew, 1972, 82-86; Betancourt, 1985, 23-34). There also is a number of detailed studies as well as publications of key EM I sites, such as Pyrgos cave, Arkalochori, Kanli Kastelli and the EM I well of Knossos (Xanthoudides, 1918; Hazzidakis, 1912-13; Alexiou, 1951; Hood, 1962; Wilson, 1984, 235-261). Moreover, in this thesis we present the typology of three important EM I pottery assemblages: Levena-Yerokampos II tomb, Platyvola cave and Debla settlement (Vol. II, Apps. X, E, XXIV, E, XXV, D). Based on the evidence from all these sites, which are used as sample and are representative of the island as a whole, this chapter deals with the description and distribution of the main EM I pottery styles (Betancourt, 1985, Map 2). The discussion will not go into the identification of local variations of the different styles, since the overall aim is to monitor and evaluate the degree of change from FN to EM I.

2. EM I Crete

EM I Crete is characterised by the development of regional styles, the most important of which are: Pyrgos ware, painted ware, monochrome ware and scored ware. Their distribution across the island is not even. The shape repertoire is enriched with new types in this period, but these are usually associated with a particular ware.

2.1. Pyrgos ware

Pyrgos ware is dark grey pattern burnished on unburnished background. It flourished in North-Central and South Crete, while it appears occasionally in West Crete (Vol. II, App. XXIV, E1;

Betancourt, 1985, 26-29). It is mainly known from sepulchral sites, such as Pyrgos cave, Arkalochori cave and Kanli Kastelli in North-Central Crete and Levena-Yerokampos II tomb in South Crete. A rich Pyrgos assemblage comes from the EM I well of Knossos too. The bulk of it was deposited at one time and belonged to debris from the settlement (Wilson, 1984, 142-148).

Shapes: The most characteristic shapes are: **pedestalled bowls, chalices and goblets** (Betancourt, 1985, figs. 13, 16; Renfrew, 1972, fig. 6.1). Pedestalled bowls are big open rounded or conical bowls with more or less high conical foot. Chalices are a smaller-sized version of pedestalled bowls. Goblets are similar to chalices, but more elegant and narrow-waisted. All these shapes are very popular in sepulchral and domestic assemblages, but totally absent from Levena-Yerokampos II tomb. Another quite popular shape in EM I Knossos well assemblage is the **deep straight-sided bowl** (Betancourt, 1985, fig. 13).

The EM I sepulchral assemblage from **Levena-Yerokampos II tomb** has a **rich shape repertoire** of small-sized or miniature vases that includes: juglets, two-handled vases with collar neck, globular to squat vases, cylindrical pyxis on three small feet and with cylindrical lid, trapezoidal pyxis with bottle neck and small pyxis with short cylindrical neck (Vol. II, App. X, E, p. 117).

Handles and lugs: Small horizontal vertically perforated lugs are common on all shapes, while small vertical horizontally perforated ones are considerably rarer.

Decoration: Decoration is applied before firing. The simplest form of pattern burnishing on footed vases consists of a solid rim band and bands of horizontal parallel or wavy lines running down the pedestal to the base (Renfrew, 1972, fig. 6.1; Hazzidakis, 1912-13, fig. 6c). Similar decoration appears on deep straight-sided bowls from the EM I Knossos well. Pattern burnishing on footed vases may also consist of abutting groups of parallel diagonal lines

(Xanthoudides, 1918, Pl. B: left) or spirals (Hazzidakis, 1912-13, fig. 3b). A more elaborate form of decoration again on footed vases is vertical reserved panels, filled with zig-zag or horizontal hatching (Xanthoudides, 1918, Pl. B: right; Betancourt, 1985, Pl. 2:.H). Finally, **Levena-Yerokampos** II vases bear simple dense vertical or horizontal lines and only occasionally network and butterflies (Vol. II, App. X, E, p. 118).

2.2. Painted ware

This type of ware is usually red-on-white and less often white-on-red painted. The first group is conventionally called "Ayios Onouphrios" ware and the second one "Levena" ware (Wilson, 1984, 237). The distribution of painted pottery is similar to that of Pyrgos ware, namely, it is popular in North-Central and South Crete and rare in West Crete (Betancourt, 1985, 29-32). Moreover, it often appears at the same burial sites together with Pyrgos ware, while it is also present in the EM I Knossos well (Wilson, 1984, 142-148).

Shapes: The most characteristic shape of painted ware is the **jug with V-shaped spout** and rounded bottom, which occurs in sepulchral and domestic assemblages (Xanthoudides, 1918, fig. 5: 5, 8; Betancourt, 1985, Pl. 2: F). The shape repertoire also includes: **globular jars with collar neck and two vertical handles and two-handled bowls** (Xanthoudides, 1918, figs. 6: 13, 17-19 and 10: 81).

The **Levena-Yerokampos** II assemblage is characterised by a bigger variety of shapes (Vol. II, App. X, E, pp. 116-117; fig. 44). Apart from jugs and two-handled necked vases and bowls (Vol. II, fig. 44: 9, 13-15, 6-8; Alexiou, 1960, fig. 20: bottom left), it also includes: **hemispherical and trapezoidal pyxis** (Vol. II, fig. 44: 12, 16), **squat vases with high rim** (Vol. II, fig. 44: 16, **two-handled cups** (Vol. II, fig. 44: 10-11), **one-handled cylindrical or conical cups** (Vol. II, fig. 44: 4-5), **circular and cylindrical lids** (Vol. II, fig. 44: 17) and a group of **plastic vases** (Vol. II, fig. 44: 3, 18-20).

Handles and lugs: Big vertical handles of circular cross-section is the commonest type on all shapes.

Decoration: Decoration is applied before firing. Painted ware is buff/ beige slipped with red/ brown decoration or red slipped with white decoration. There is a remarkable similarity between the two groups of painted pottery as to syntax and pattern repertoire. As a rule, vertical and less often horizontal parallel lines cover the pot surface. Their syntax follows and underlines the articulation of the vase. Quite often cross-hatching is formed towards the bottom of vases. Sometimes more elaborate patterns, such as hatched triangles and multiple zig-zags, are incorporated into the system of dense lines (Vol. II, App. X, E, p. 118; fig. 44).

2.3. Monochrome ware

Red and occasionally black monochrome slipped or slip burnished and undecorated pottery is sometimes called "Salame" ware (Branigan, 1970, 18). It has a steady presence in North-Central and South Crete alongwith Pyrgos and painted ware in burial assemblages, including those of our sample. It also occurs in the EM I Knossos well (Wilson, 1984, 147). In Eastern Crete, none of the standard ware types of the rest of the island is present. In general, the EM I occupation of this part of Crete is not at all well known. Nevertheless, there is a small amount of EM I red monochrome ware from the cave of Trapeza (Vol. II, App. XIV, E) and a few more East Cretan cave sites (Wilson, 1984, 245-247). Moreover, the EM pottery from Mochlos cemetery Tomb V is red monochrome, but it is not clear whether it belongs to the EM I or EM II (Vol. II, XIII, E-F). Finally, monochrome ware is almost totally absent from West Crete, unless the small group of red or black washed ware from the EM I Phase I of Debla settlement is taken to belong to this type of pottery (Vol. II, App. XXV, C1, p. 210).

Shapes: Bowls and globular necked vases are the standard shapes that appear in monochrome ware from all sites. A richer shape repertoire characterises the monochrome EM I assemblage from Levena-

Yerokampos II tomb and includes: small juglets, collar-necked vases, squat pyxis, one-handled cups, deep rounded bowls and miniature pyxis and bowls (Vol. II, App. X, E, p. 117). The only shape reported from East Crete is the **pedestalled bowl**, which in the rest of the island appears exclusively in Pyrgos ware.

Handles and lugs: Small horizontal vertically perforated lugs and less often vertical horizontally perforated ones are the commonest types.

2.4. Scored ware

Scored/ wiped ware is very characteristic of EM I West Crete and present in North-Central Crete (Betancourt, 1985, 31). In EM I West Crete, it is very common at various cave sites and at the settlement of Debla (Vol. II, App. XXV, C1, p. 210). A particularly rich assemblage also comes from the cave of Platyvola (Vol. II, App. XXIV, E1, pp. 202-203). In North-Central Crete, it is known from the Knossos EM I well, but it is absent from sepulchral assemblages (Wilson, 1984, 144-145). Finally, scored ware is hardly known from South and East Crete.

Shapes: The most characteristic and popular shapes are: **jugs and rounded bowls**. Jugs have big globular/ squat body, narrow neck and a big vertical handle (Vol. II, figs. 83: 3, 85: 7; Betancourt, 1985, Pl. 2: J). They usually have a low spout, which is formed by a rising of the rim, as opposed to the high V-shaped spouts of their counterparts in painted ware. Big jugs also occur among the scored ware from EM I Knossos well, but, in this case, they have a pinched-in mouth. Rounded bowls are large-sized and include open and deep varieties.

Decoration: All vases are coarse buff unburnished and regularly wiped allover, in the vertical and sometimes diagonal sense. Wiping is applied before firing.

3. Continuity or discontinuity?

The great majority of EM I assemblages comes from sepulchral sites, while only a small number of settlements has been excavated. Nevertheless, there is a close correspondence between burial and domestic assemblages as to ware types, within each geographical area. In North-Central Crete, Pyrgos and painted ware are popular in burial caves and at the settlement of Knossos. Monochrome ware also presents the same distribution in this part of the island. Scored ware, on the contrary, is known only from the domestic assemblage of the EM I Knossos well. A similar picture emerges from South Crete too, the difference being that there is no scored ware from there. East Crete is characterised by monochrome ware, although the overall amount of evidence is very small. In West Crete, scored ware is predominant at the settlement of Debla and in the cave of Platyvola. This cave was probably used for burials, as the large accumulation of human skeletal material in Area IV indicates (Vol. II, App. XXIV, B). A small amount of Pyrgos and painted pottery was present in this cave too (Vol. II, App. XXIV, E1; fig. 84: 3-5). Moreover, as became evident in the previous section (2), there is a shape/ ware specialisation. Pedestalled bowls and chalices are typical of Pyrgos ware and jugs of painted ware. The first two shapes appear in monochrome ware and the last one in scored ware too.

The development of regional styles is a major feature and attribute of EM I Crete. Pyrgos and painted ware from North-Central and South Crete are the most spectacular as to decoration and the richest as to shape repertoire. Their influence over the other wares is demonstrated by the adoption of their main shapes into monochrome and scored ware as well as by their introduction -in small numbers- in West Crete. The appearance of Pyrgos and painted ware coincides with an innovation in burial architecture. Circular tholos tombs make their first appearance in the EM I period and their distribution is confined to South Crete and especially to the plain of Messara. The material from the earliest tomb, that of Levena-Yerokampos II, is presented in this thesis (Vol. II, App. X). These tombs were used for

communal burials (Branigan, 1970, 86-103). In the other parts of the island, caves have served as sepulchral places from EM I onwards; burials in them could have been communal too.

The obvious change from the Cretan Neolithic unity in pottery typology in combination with the first appearance of circular tombs led to the formulation of many suggestions about the origin of the EM I culture. The invasion or immigration theory is a favourite among them and several areas of the East Mediterranean, such as North Africa, Syria and the Cyclades, have been pointed out as the place of origin of circular tombs. A very good discussion of this topic appears in Branigan's study of Messara tombs (1970, 139-151) and there is no need to repeat it here. Furthermore, in the same study is established that there is no firm, convincing evidence to support any of these theories, apart from general indications and similarities. Branigan considers as the most plausible explanation the indigenous development of these tombs. To the same geographical directions moved the search for the origin of EM I painted ware, but yet again no convincing results were produced. On the contrary, EM I pottery looks more and more like the end product of a local process of evolution (Branigan, 1970, 123; Betancourt, 1985, 30-31). Finally, Renfrew (1964, 114-120) makes an effort to substantiate the rather general assumption about the local development of EM I pottery. In his detailed study of the EM I and EC relations he rules out the possibility of a Cycladic origin and underlines the idea of continuity between N/ EM I pottery styles.

3.1. Patterns of continuity

Renfrew (1964, 117) makes the point that "the origins of EM I have perhaps been obscured by our relative ignorance of the period immediately preceding it". Our present state of knowledge is accurate enough to allow a more precise study of patterns of continuity between FN and EM I. First, the stratigraphic gap assumed between the two periods, in all studies dealing with the issue, does not seem to

be a serious problem, since there are post-depositional factors that have affected the stratigraphic sequences of the island (Ch. II, 9).

In the area of pottery typology, several major EM I traits have LN/ FN predecessors. EM I scored/ wiped ware from West and North-Central Crete is very similar as to the evenly fired fabric and type of surface treatment to LN/ FN coarse wiped ware from Knossos and Phaistos (Ch. VII, 10; Wilson, 1984, 144). The difference is that EM I wiping is more regular and even. The use of slip or slip burnish on EM I monochrome and painted ware recalls coarse ware with similar surface treatment from certain FN sites, such as Kaloi Limenes house (Ch. X, 3.2.1). Moreover, the sporadic use of wash on coarse ware from various FN sites, including Knossos, and on Phaistos class F and G, is also very similar to slip (Ch. X, 5,6.1; Vol. II, Apps. II, Table 10, III, Table 7). EM I pattern burnished Pyrgos ware has very close stylistic similarities to the FN "Partira" group of pottery (Ch. XII, 4.1.1). This type of decoration is also present in LN/ FN Knossos and characteristic of FN Phaistos class G (Ch. VII, 11; Renfrew, 1964, 116-117; Wilson, 1984, 241, 252). Finally, EM I painted ware is reminiscent of FN incrusted ware, but it is of better quality. Incrustation consists of the application of paint after firing on a burnished background and flakes off easily (Ch. V, 2.4), while painted ware is slipped and painted before firing and produces a permanent decorative effect.

A whole group of rare EM I-like specialised traits from FN Knossos and Phaistos and, to a lesser extent, from other FN sites become popular in the EM I period (Chs. VI, 2.2.4, 2.3.4, VIII, 4.1, X, 6.3.1, 6.3.2). The most important among them are the following. Jugs with V-shaped spout, which become so characteristic of EM I painted ware, are present only at Knossos and Phaistos and are fully adapted to the neolithic tradition. Chalices, which are typical of EM I Pyrgos ware, are also known from FN Knossos and Phaistos. Horizontal vertically perforated lugs become common on EM I vases. The symbolic character of FN anthropomorphic/ zoomorphic lugs from FN Knossos and Phaistos as well as of the "Partira" group vases (Ch.

XII, 4.2) becomes a major feature of EM I painted ware, as the popularity of plastic vases in the assemblage from Levena-Yerokampos II tomb indicates. Finally, zig-zags, chevrons and hatched triangles, which were characteristic of incised, jabbed and incrusted decoration from FN Phaistos and, to a lesser extent, from FN Knossos (Ch. VII, 11) and from other FN sites (Ch. X, 6.3.1), occur among the pattern repertoire of EM I Pyrgos and painted ware.

All these lines of continuity form a general pattern that may explain the genesis of the EM I culture. As it is demonstrated in this thesis, the FN pottery typology from Knossos and Phaistos is characterised by efforts for mass production and experimentation with new decorative techniques. Moreover, these efforts are related to improvements in pot firing technology, which made possible the exploration of new styles and concepts in decoration (Ch. VIII, 4). The overall aim was to invent new and quicker to produce decorative types of surface treatment, such as red/ black mottling and pattern burnishing, which were applied before firing. This aim was not achieved with the otherwise attractive incrustation, since this was applied after firing (Chs. V, 2.4, VI, 2.3.1-2.3.3). Another important aspect of LN/ FN pottery from Knossos and Phaistos is the abandonment of burnish on coarse ware and the experimentation with the decorative purpose of burnish on fine ware (Ch. V, 3.1). Also, as already mentioned, a whole range of new rare EM I-like types is introduced at FN Knossos and Phaistos. The situation outside the two main FN sites is totally different, in the sense that pottery is of lower quality and is rarely decorated (Ch. X, 6, 7). The factors that determine the appearance of these differences across the island are related to the different function of the various sites and assemblages (Ch. XI, 3). Finally, towards the end of FN, the "Partira" group of vases is introduced and have a specialised function as grave-goods. This type of pottery is known from all parts of the island but West Crete, while pattern burnished decoration on it is used only in North-Central and South Crete (Ch. XII).

A similar pattern emerges from EM I Crete. Pyrgos and painted ware are mainly known from North-Central and South Crete and are the end products of experimentation with new decorative techniques, so characteristic of FN Knossos and Phaistos. What started as an exploration of new ways, on the side of the main bulk of traditionally neolithic types of decoration, is now standardised. In other words, the great variety in the forms and creativity of FN decoration, especially from Phaistos (Ch. VII, 11), has led to the appearance of painted and Pyrgos ware, which may be related to further improvements in pot firing technology too. Improvements that must have made possible the successful application of paint on painted ware, before firing.

A major quantitative change occurs with regard to the rare EM I-like types from FN Knossos and Phaistos, since they become popular in the EM I period. However, most of them are associated with painted and Pyrgos ware in North-Central and South Crete. Changes in the frequency of occurrence of various traits is a major attribute of Cretan neolithic pottery too (Ch. III, 1). The rate of change is higher at the two main settlement sites than anywhere else. As a result, it is possible to distinguish three stylistic phases (LN I, LN II and FN) at Knossos (Ch. IV, 3). Decoration, which is mainly applied on fine ware, plays an important role for the definition of the identity of each phase. On the other hand, such fine distinctions cannot be made for the rest of the island, where coarse ware is predominant (Ch. X, 6).

Similar is the situation in EM I Crete. At Knossos, there are two distinct EM I (A and B) stylistic phases not reciprocated from the rest of the island (Wilson, 1984, 234), although they should exist in South Crete, since it shares the same types of painted and Pyrgos ware. West and East Crete are characterised by scored and undecorated monochrome ware. It is then reasonable to suggest that Pyrgos and painted pottery corresponds in function and purpose to fine ware, in LN/ FN terms, and monochrome and wiped pottery to neolithic coarse ware. All in all, it is rather early, in the present state of

research, to speak about gaps in the EM I occupation of West or East Crete or overlappings with FN Crete (Branigan, 1970, 146-147; Cadogan, 1983, 508; Wilson, 1984, 235-236, 246). These suggestions obviously derive from an effort to explain the absence of Pyrgos and painted ware from those parts of the island. However, it seems more probable that other factors prevented the development of elaborate styles there.

Another major EM I innovation is the appearance of circular tombs in the Messara. Although there is no funerary architecture from Neolithic Crete, the circular hut from FN Phaistos sounding V (Vol. II, App. III, Table 1) provides an interesting link. Moreover, the occurrence of FN "Partira" grave goods in the lowest level of Levena-Yerokampos II tomb in South Crete may suggest that this tomb was built in that period (Ch. XII). At any rate, the factors that led to the construction of tombs must be related to economic and social reasons, such as the increase of population. Admittedly, this is a general statement, but there is no sufficient data to understand, in greater detail, the EM I society, since very few settlement sites have been excavated at all. Nevertheless, it is quite probable that North-Central and South Crete had a more complex social and economic background. This is indicated by the development of elaborate local pottery styles that imply a certain degree of craft specialisation. In conclusion, there could well be different patterns of economic exploitation and site function across the island as in the FN (Ch. XI).

3.2. Aegean affinities

The EM I pottery from Crete has a strong individual character and style unparalleled from anywhere else. Nevertheless, there are affinities with the Aegean and in particular with the Cyclades. Links are established through pyxis typology. Spherical and cylindrical pyxis of monochrome, painted and Pyrgos ware from burial assemblages, such as Levena-Yerokampos II tomb, find parallels in the EC I culture of Grotta-Pelos. The shape of pyxis is very characteristic of EC I

burial sites, but the Cretan examples present important differences from them, which are described in further detail in other studies (Renfrew, 1964, 114-116; Doumas, 1976). The overall impression is that the EC I prototypes were fully adapted to the EM I pottery tradition. Only five bottles from Pyrgos cave could be direct imports from the Cyclades (Renfrew, 1964, Pl. Δ: 3). Otherwise, the main EM I innovations, namely painted ware and jugs with V-shaped spouts, have no close parallels from the Aegean.

Further evidence on the contacts of EM I Crete with the Cyclades comes from the EM I/ II large coastal cemetery of Ayia Photia in Eastern Crete (Davaras, 1971; 1972; 1982). In contrast to the communal burials known from the EM I cemetery of Levena-Yerokampos II in South Crete and from the burial caves of the rest of the island, Ayia Photia pit and primitive chamber graves must have been used for individual burials. This practice alongwith certain features of the typology of graves establish very close links with the Cyclades (Davaras, 1982, 2-5). One could even speak of a Cycladic colony in East Crete (Doumas, 1976, 79). However, Ayia Photia shape and ware repertoire includes certain typically Cretan forms, such as, jugs with V-shaped spout in monochrome and less often in painted ware as well as chalices in monochrome ware (Davaras, 1972, Pl. 603: 2, 5; 1982, fig. 2). The latter often bear dull pattern burnishing and more often simple bands of incised horizontal and parallel lines, which look like a local imitation of the pattern burnished decoration on Pyrgos ware chalices from North-Central and South Crete. Spherical and cylindrical pyxis are also popular at Ayia Photia in monochrome ware and recall strongly EC I prototypes (Davaras, 1972, 1982, fig. 3). The significance of this cemetery is obviously crucial for the understanding of the EM I and EC I cultural interaction, but it is not as yet published. West Crete also provides some evidence on contacts with the Cyclades. A small grave, possibly EM I, from Nea Roumata recalls EC prototypes, but it is not published either (Tzedakis, 1984, 6-7).

CHAPTER XXV

THE N/ EBA TRANSITION IN CRETE

The cultural character of the period preceding the establishment of EBA (EM II) has been interpreted in several, often contradicting, ways. The first fully developed EBA period in Crete coincides with EM II. A whole range of economic and social developments took place in it. Metal working, manufacture of bronze tools and weapons (i.e. daggers) and of golden ornaments, craft specialisation in pottery and stone vase production, systematic contacts with the Aegean and acquisition of raw materials from abroad for the manufacture of luxury goods (i.e. gold, ivory) appear in Crete for the first time in this period (Renfrew, 1972, 93-96; Branigan, 1983). On the other hand, the EM I economy is not at all well known and, therefore, it is not possible to estimate how close was it to the EM II standards. There is hardly any evidence for EM I metal working or for systematic trade contacts with the Aegean. Nevertheless, there are signs of complex social organisation (circular communal tombs), intensification of cultural contacts with the Aegean and for craft specialisation in pottery (Ch. XXIV), while there is a very strong continuity between EM I and II pottery styles. For all these reasons, it seems more reasonable to consider the EM I as the first period of the EBA in Crete than the last phase of the N/ EBA transition.

The definition of the N/ EBA transition in the literature has been based on pottery evidence. However, the approach and methodology used have rather confused the issue. In the earlier studies, the assumption was made that there was a deterioration in the quality of pottery towards the end of Neolithic, which marked a period of decadence before the flourishing of the EM I styles (Evans A., 1921, 38, 56; Mackenzie, 1924, 18; Pendlebury, 1935-36, 26-28). This period was called "sub-neolithic" and everything that looked duller or different than the true Neolithic of Knossos was placed in it. Moreover, this attitude led to the search for newcomers who brought with them the EM pottery tradition. Another interpretation was that

the last phase of Neolithic and the EM I defined an indigenous Chalcolithic horizon transitional to the development of the Minoan Palaces (Evans A., 1921, 32; Levi, 1964, 5). What is remarkable about all these studies is that they use fragmentary pieces of pottery evidence, without detailed documentation, to formulate general theories on the cultural history of prehistoric Crete. In consequence, the use of the terms "sub-neolithic" and "Chalcolithic" had rather obscured the issue of the N/ EBA transition than clarified it (Warren, 1965, 18, note 5).

A major step in the theoretical approach of the subject was made by the introduction of the term "Final Neolithic" to define a hypothetical horizon that would include the "subneolithic" and the last phase of Neolithic in general (Renfrew, 1972, 71). Later, Vagnetti (and Belli, 1978) made a very useful contribution, because she substantiated the character and chronological independence of the FN in Crete. Nevertheless, the invasion theory and the long FN and EM I transitional period has persisted in the literature. Treuil (1983, 516-519; Treuil et.al., 1989, 125-127, 165), who conducted a systematic study of the Neolithic and EBA material culture from the vast geographical area of the Balkans and the East Mediterranean, concluded that there is a cultural break between the two horizons in Crete. His main argument was the lack of undisturbed stratigraphic sequences from the island and a certain shift in the location of EM settlements, which may have been caused by invasion. On the other hand, Tzedakis (1984) renewed the "Chalcolithic" theory of a slow process towards the EBA, based on a brief revision of the pottery evidence from West Crete.

There is a pattern of underlying assumptions that explain the obvious contradictions. First of all, none of these studies examines the totality of pottery evidence nor documents, in a thorough way, the interpretations proposed each time. Second, they all expect to find a uniformity of pottery typology from one end of the island to the other, in order to acknowledge cultural continuity. Whenever this is not there, different patterns of overlappings in time are proposed

or outside factors (invasion) are brought in to solve the problem. Third, pottery is seen as a product that has nothing or little to do with the puprose it is made for. In other words, the functional and economic aspects of pottery are left out of the discussion. Finally, the apparent lack of a FN phase from Knossos obscured its relation to FN Phaistos, in terms of relative chronology, and reinforced the idea of a gap or break between LN and EM I.

This thesis took a fresh and more realistic look at neolithic pottery typology and stratigraphy and was able to demonstrate that all these assumptions are not valid. The apparent stratigraphic break may well be explained by post-depositional activities at various sites. As for the shift in location of settlements, is mainly observed in relation to small rural installations and not in the main neolithic settlements of Knossos and Phaistos (Ch. II, 9). More precisely, FN Kaloi Limenes house, FN Nerokourou and EM I Debla settlements are all small, probably seasonal, installations and were not occupied for long periods. In general, the number of neolithic and EM I open settlements outside Knossos and Phaistos is too small for conclusions on cultural changes to be drawn.

Very revealing were the results of pottery typology examined within the context of neolithic subsistence economy. A strong trend of continuity runs across the Cretan neolithic pottery sequence (EN I to FN). LN/ FN Knossos and FN Phaistos have a common background, while the rate of stylistic change at Knossos is high and defines three different phases (LN I, LN II and FN). FN Knossos belongs to the same horizon as FN Phaistos. These two sites are characterised by improvements in pot firing techniques, that led to the abandonment of burnish on coarse ware, and a tendency for mass production. These factors generated efforts for the invention of new and quicker to produce types of decoration and created a big variety in this domain of typology. Outside Knossos and Phaistos, pottery is duller and of lower quality, while burnish is kept on coarse ware. Moreover, coarse ware is predominant and that explains the scarcity of decoration, which is mainly applied on fine ware. In other words, the abandonment of

finely burnished and polished surfaces and the dull appearance of pottery from many FN sites of Crete has nothing to do with a "sub-neolithic" cultural decadence. Another important point is that the assemblages from these sites have close typological links with LN II/ FN Knossos and Phaistos and, therefore, they can safely be placed in the same horizon (Ch. X, 6).

The reasons that caused differences in the quality of pottery have to do with the types of installation and function that each pottery assemblage was made for (Ch. XI). The pattern that emerges from the examination of pottery is that Knossos and Phaistos, by being located in the two most fertile river valleys of the island, had a more elaborate and rich in variety pottery typology, in order to meet the needs raised by the practice of a full farming economy there. This pattern ties well with a general observation made by Halstead (1981, 194), based on environmental and subsistence economy evidence. He makes the point that there is an important distinction to be drawn between fertile lowlands and areas with poorer and more dispersed arable land. It is also worth mentioning that the use of caves was intensified in the FN period in Crete and quite a few of them may have been occupied on a seasonal basis by shepherds, since their upland location was suitable for the exploitation of grazing land (Halstead, 1981a, 326, 328).

Turning back to the main point of this discussion, it is obvious that the FN period in Crete has a transitional character. It is the last rather short phase of the Neolithic (Ch. XIII, 4.1), since it does not show any evidence for change in economy or society. Moreover, FN pottery typology develops gradually from the earlier periods and keeps all the attributes of the neolithic tradition. At the same time, this period is characterised by the introduction, in small numbers, of new pottery types from the Aegean, by improvements in pottery technology and experimentation with new and faster types of decoration. There also appear, towards the end of FN, the first signs of craft specialisation manifested through the use of the "Partira" group of symbolic vases as grave-goods (Ch. XII).

The FN period is succeeded by the EM I culture. Close patterns of continuity exist between the two periods (Ch. XIV, 3.1). All these features that made a timid appearance in the FN are fully established and standardised in the EM I. The tradition of pottery specialisation and improvements in firing are fully blown in EM I North-Central and South Crete. Pyrgos and painted ware take the place of neolithic fine burnished ware, while East and West Crete are characterised by scored and monochrome ware, that follow the tradition of neolithic coarse ware. Finally, contacts with the Aegean are now more systematic than before and indicate closer cultural affinities with the Cyclades. All in all, pottery does not provide any real evidence of invasion from abroad, but it demonstrates a gradual process of cultural evolution.

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